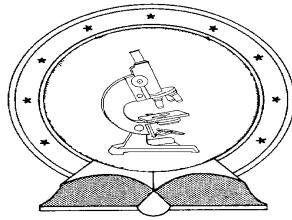


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**A taxonomic and zoogeographical survey of the
Meganola Dyar, 1898 generic complex (Lepidoptera,
Nolidae, Nolinae) based on the Palaearctic and
Oriental species**

**A *Meganola* Dyar, 1898 generikus komplex
(Lepidoptera, Nolidae, Nolinae) taxonómiai és
állatföldrajzi vizsgálata a palaearktikus és orientális
fajok alapján**

PhD thesis

Egyetemi doktori (PhD) értekezés

László Gyula

témavezető neve: Prof. Dr. Varga Zoltán

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.....
Prof. Dr. Varga Zoltán

**A taxonomic and zoogeographical survey of the *Meganola*
Dyar, 1898 generic complex (Lepidoptera, Nolidae, Nolinae)
based on the Palearctic and Oriental species**

Értekezés a doktori (Ph.D.) fokozat megszerzése érdekében
a **biológiai** tudományágban

Írta: **László Gyula** okleveles **agrármérnök**

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1. Introduction

Noctuidae is one of the less explored, but extraordinarily species rich families within the Noctuoidea superfamily. The systematic position of the family has frequently been changed during the last decades. The least studied large taxonomic unit within the family is the subfamily Nolinae, especially the genus *Meganola* Dyar, 1898 of the tribe Nolini.

Meganola Dyar, 1898 s. l. is one of the giant clades of the subfamily; the number of the known Eurasiatic taxa of the genus exceeds the 150. On the other hand, it is apparently rather a collecting genus of numerous, not yet delineated genera than a homogeneous lineage. This fact per se justifies the need of thorough taxonomical study of the genus; moreover, it is worth to mention that the entire tribe is concerned by many taxonomic errors and oversights based in most cases on the neglecting of genital morphology studies or misinterpretation of the morphological characters.

The main reasons of the rather initial stage of the taxonomy of *Meganola* and the entire tribe Nolini can be explained by the following properties of the group: the species are rather small and mostly inconspicuous avoiding the attraction of most researchers; it is rather difficult to get properly mounted non-European specimens of significant amount, especially from the tropical-subtropical areas; the actual taxonomy of the group is based almost exclusively on external characters, mostly expressed by simply the habitus or wing pattern of the given taxa, thus any taxonomic research requires the examination of the genitalia of the type specimens, demanding longer period of studies in numerous museum collections. Due to the above-mentioned reasons, several incorrect combinations can be found even in the most recent literature, which also have to be revised and corrected.

The studies of present work have been commenced twelve years ago as a comprehensive taxonomic research project initiated by Mr Thomas Witt. The access to the vast collection material of the Museum Witt (Munich) promoted very much the investigations at the beginning of the project. Later, during the progress of the study, more and more museum collections have been involved into the investigation, resulting in a continuous discovery of new taxa and allowing to fulfil the main objectives of this present work which are as follows: (1) revise all described taxa of the tribe in order to define undoubtedly their generic placement; (2) describe the undescribed species found in the examined material; (3) define the relevant generic and species-group characters; (4) delineate and describe the distinct genera within the *Meganola* s.l. generic complex; (5) delineate species-groups within the newly separated genera; (6) overview the zoogeography of the group based on the new (revised) taxonomic information.

2. Literature overview

2.1. The family Nolidae

According to the oldest, most traditional concept, the Nolidae subfamily (which was then more or less consonant with the current content of Nolini tribe) has long been treated as a closely related distinct family to Arctiidae. Later, as a result of the phylogenetic studies of Speidel et al (1996) and Kitching et Rawlins (1998) the concept of the subfamily Nolinae had remarkably been changed. Both research team agreed in the close relationship (monophyly) of Nolinae, Sarrothripinae, Chloephorinae and Camptolominae and consequently proposed to separate this lineage both from Arctiidae and Noctuidae. The concept of Speidel et al (1996) was that Nolinae on subfamily rank belongs to the family Noctuidae, while Kitching et Rawlins (1998) evaluated the common morphological characters being eligible to establish a wider concept of Nolidae on family rank with closer relationship with Arctiidae, Lymantriidae and Pantheidae. Thus, the original concept of Noctuidae has been largely changed creating debates between specialists. With the aim to clarify these discrepancies, Holloway (1998) reevaluated the statements of the above mentioned teams with thorough morphological examinations of the concerned taxa. As a final result he agreed in the wide concept of family Nolidae, but did not come to a decision about the phylogenetic relationship of Nolidae with the further families of the Noctuoidea superfamily.

The most up-to-date information on the phylogeny of the family is based on recent molecular and morphological studies (Zahiri et al. 2013) but still remained rather disputable in many aspects leaving plenty of open questions to be answered. The traditional common feature of Nolidae was the presence of the raised scales on the upper surface of the forewing, however, such character is present only in Nolinae subfamily and Sarrothripini of subfamily Chloephorinae, while the family involves further subfamilies as Diphtherinae, Risobinae, Collomeninae, Beaninae, Eligminae, Westermanniinae lacking this character (Zahiri et al. 2013), being not a synapomorphic character for the entire Nolidae. According to the phylogenetic hypothesis of the latter authors the most reliable and unambiguous Nolidae apomorphy is the unique structure of the cocoon which is boat-shaped, constructed in two layers with a vertical exit-slit.

2.2. The subfamily Nolinae

The most widely accepted diagnostic characters of the subfamily Nolinae are the reduction or loss of the larval prolegs on A3, and the presence of

secondary setae on verrucae (woolly-bear caterpillars) (Holloway 2003). Additional character revealed by Zahiri et al. (2013) is that the M2 vein arises near to the middle of the discal cell. Further mentioned distinctive characters as the corpus bursae often having two signa and the frequently stacking head capsule of larvae seem to be valid for certain clades only, and not for the entire subfamily.

Further autapomorphies of the subfamily are given by Fibiger et al. (2009) expressed in the configuration of the muscles of the male genitalia. This work followed the original concept of Speidel et al. (1996) distinguishing Nolinae as a subfamily of Noctuidae and provided a tribe-level subdivision of the subfamily as follows:

- Nolini Bruand, 1846 (including two subtribes: Nolina Bruand, 1846 and Roeseliidina Walker, (1865))
- Chloephorini Stainton, 1859
- Collomenini Kitching & Rawlins, 1998
- Sarrothripini Hampson, 1894
- Eligmini Mell, 1943
- Afridini Kitching & Rawlins, 1998
- Blenini Mell, 1943
- Risobini Mell, 1943
- Westermanniini Hampson, 1918

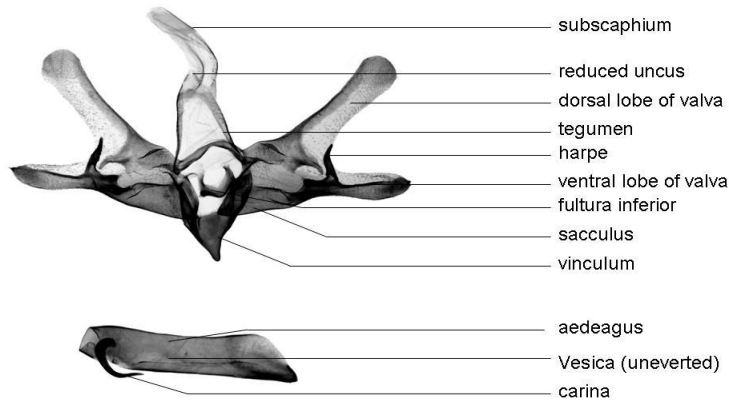
The subdivision of Zahiri et al. (2013), as mentioned above, accepted the original concept of Kitching & Rawlins (1998), ranking the Nolidae as a distinct family. They maintained the following subfamilies:

- Nolinae
- Chloephorinae (including the tribe-level taxa Sarrothripini and Camptolomini)
- Westermanniinae
- Eariadinae
- Bleninae
- Risobinae
- Afridinae
- Eligminae; and completed with two newly introduced subfamilies:
- Collomeninae
- Beaninae

The most recent summarized definition of the subfamily Nolinae is given by Hacker et al. (2012), mentioning the following autapomorphies:

- the cocoons are boat-shaped with vertical split at the head-end;
- the unique method of the construction of cocoon;
- the posteriorly rounded distal end of the pupae, lacking cremaster;
- the uniquely correct labial palps with a third upturned segment;
- absence of true uncus replaced by a pseudouncus developed from the 10th abdominal segment, and the heavily sclerotized, short transtilla.

The revisional work on the African Nolini fauna (Hacker et al. 2012) distinguishes two subtribes within the tribe Nolini: Nolina and Roeseliidina. This separation is given within the general characterisation of the tribe Nolini, without further notes about the distinctive characters of the subtribes but putting a few remarks to certain external features. It is worth to note that the differential characters used by them cannot be accepted for such morphological features like the structure of the antennae or the wing venation. Nevertheless, the distinction of the two main Nolini branches is generally accepted by the majority of the authors and is well supported by diagnostic genitalia morphological features. In the subtribe Nolina, the valvae are longitudinally deeply splitted into two more or less equally long and broad dorsal and ventral sections, the uncus is absent or reduced to a minute hump (see the text fig. A), and the last intersegmental membrane connecting the 8th segment to the clasping apparatus is long, often longer than the sclerotised part of the 8th segment. In the subtribe Roeseliidina, the valvae are not or only shortly incised along the longitudinal axis (never longer than the half of the valva; this feature is present only in a few lineages of the subtribe, e.g. *Hampsonola*, *Vandamia*), the uncus is always present and most often well-developed (see the text fig. 1), and the last intersegmental membrane is much shorter than the 8th segment. Finally, in the genera of the subtribe Nolina the tergite and sternite of the 8th segment bear specially modified sclerotised structures (see the fig B), these structures are missing or much weaker sclerotised and simplified in the genera of Roeseliidina.



Text fig. A: Male genitalia of *Nola thymula* as a sample of the general genitalia structure of the subtribe Nolina with indication of the most important character-bearing parts



Text fig. B: Well developed sclerotized structure on the 8th segment of *Nola duplicilinea* as a sample of a character being typical for the species of the subtribe Nolina

The recent, molecular-based phylogenetic concept of Nolinae by Zahiri et al. (2013) outlines two well established lineages within the subfamily, the *Nola-Meganola-Manoba* and *Melanographia-Membranola-Alcanola* clades. This publication fully neglects the Nolina-Roeseliidina subtribe concept. It is worth noting, however, that the number of samples involved into the molecular study was only 82 specimens representing all subfamilies of Nolidae, which is definitely not eligible for a sound

phylogenetic analysis of lower level units as e.g. tribes or genus groups. This should be the reason of the ignorance of numerous morphologically well-established genera of the Nolini (e.g. *Aeneanola* László, Ronkay & Ronkay, 2013, *Porcellanola* László, Ronkay & Witt, 2006, *Barnanola* László, Ronkay & Witt, 2010, *Casminola* László, Ronkay & Witt, 2010, *Inouenola* László, Ronkay & Witt, 2010, *Mokfanola* László, Ronkay & Witt, 2010 etc.) from the study. This publication pinpoints the urgent need of the synthetic assessment of the classic and the molecular taxonomic studies. The involvement of substantially more morphotaxa to the molecular genetic studies would produce apparently more and more reliable results on the knowledge of the phylogeny of the entire subfamily. The mutual benefit of the cooperation would be a better founded delineation of the main Nolinae-Nolini clades, leading to the establishment of a complete cladistic system being supported by both the morphological and DNA information.

2.3. The tribe Nolini

The generic splitting and the proper definition of the Nolini genera have always been evergreen problems of the Nolinae taxonomy, due to the property of the tribe. The external morphological features regularly used for the separation of the major lineages (antennal structure, wing venation, colouration and pattern of forewing, etc.) are widely overlapping between the species-groups and even genera and the fundamental genitalia studies have long been neglected. The first reliable generic definitions are provided by Holloway (2003) but only for the groups represented in the Bornean fauna. The supraspecific taxonomy of the Nolini has been accelerated by the revisional works of Hacker, Schreier and Goater (Hacker et al. 2012) on the African Nolini and the Hungarian Nolinae working group on the Palaearctic and Oriental fauna (2004-2015). These works resulted in the distinction and re-definition of the smaller or larger taxonomic units and lineages and the description of numerous generic-level taxa.

Probably the most difficult problem was the clarification of the relationship between the main lineages of the *Meganola* generic complex. The first attempt for the division of this assemblage was made by Holloway (2003) who separated *Manoba* from *Meganola* s.l. at generic level. My subsequent studies confirmed the correctness of this statement. In the forthcoming years I could distinguish a number of morphologically well supported lineages which have been described as distinct genera (see the Appendix 1-12). Pellinen (2012) also contributed to the genus-stock of the *Meganola* complex with a remarkable new genus *Membranola*. Hacker (Hacker et al. 2012) have described only a single new genus (*Madanola*) within the Roeseliidina tribe in spite of the immense amount of the taxa

investigated by him, albeit numerous African taxa (e.g. *Meganola antennata* Hacker, 2012, *M. leucosigna* Hacker, 2012, *M. incana* (Saalmüller, 1884), *M. ronkayiana* Hacker, 2012, *M. melanosticta* (Hampson, 1914) etc.) show significant morphological deviation and unique characters in genitalia compared to the general characterization of *Meganola* s. str. In my very last publication (published in Dec 2015, see Appendix 12) I provided the full taxonomic evaluation of the Palaearctic and Oriental members of the *Meganola* sensu lato genus-group, including the description of four new genera.

2.4. The genus *Meganola*

The genus *Meganola* was established by Dyar (1898) for a Nearctic species *Meganola conspicua* Dyar, 1898. The generic name has been introduced for the Old World fauna by Poole (1989) who applied it for practically all taxa previously treated by authors as *Roeselia* Hübner, 1825 except e.g. *Sarbenia* Walker, 1862 and *Proneca* Swinhoe, 1890, which were considered by Poole as distinct genera. It is worth to note that *Roeselia* is synonymous with *Nola* Leach, 1815 due to its unfortunate type-species designation. Grote selected *Phalaena Tinea cucullatella* Linnaeus, 1758 as type-species of *Roeselia*, since the type-species of *Nola* is, by monotypy, *Phalaena Noctua palliola* [Denis & Schiffermüller], 1775. As these two names refer to the same species, both genera have the same biological species as type-species, therefore *Roeselia* is a junior subjective synonym of *Nola*.

The delineation of this major genus has long been problematic, lacking a proper and consistent generic diagnosis. The quadrifine hindwing venation has long been deemed as a distinctive morphological character of *Meganola* (s.l.), but this concept produced an undoubtedly polyphyletic assemblage. Holloway (2003) clarified first the taxonomic position of the (otherwise also extraordinarily species rich) genus *Manoba*, correcting the erroneous traditional treatment of the group which considered *Manoba* as synonymous with the lithosiine genus *Stictane* Hampson, 1900, and restored its status as a valid noline genus based on the trifine hindwing venation as main diagnostic character besides the characteristic configuration of the genitalia.

The further species belonging to the other large branches of this generic complex remained, however, held in a diverse stock of generic units. Important to see the discrepancies between publications of authors concerning the taxonomic value of the hindwing venation in the *Meganola* complex. Holloway (2003) divided *Meganola* and *Manoba* based on the quadrifine hindwing venation (with M_3 and CuA_1 stalked) of the former and trifine one (with M_3 and CuA_1 fused) of the latter genus, while Zahiri et al

(2013) refers to *Meganola* having trifine hindwing venation with fused M_3 and CuA_1 . To get a clearer picture I studied the hindwing venation of species of several genera and species-groups of the *Meganola* s.l. complex and gained the following results:

Ctenane: M_2 present, M_3+CuA_1 stalked (variably long within the genus, the stalking section is much longer in the *trianguloquelinea*-group than in the *labuana*-group).

Fragilonola: M_2 present, M_3+CuA_1 fused.

Hampsonola: M_1+R_{1-5} stalked, M_2 present, M_3+CuA_1 fused.

Maculonola: M_2 present, M_3+CuA_1 stalked (with medium-long stalking section).

Manoba: M_2 present, M_3+CuA_1 fused.

Meganola: M_2 present, M_3+CuA_1 fused in *M. conspicua* (the type-species of the genus) but M_3+CuA_1 is long stalked in many Oriental species which can explain the discrepancy between the statements of Holloway (2003) and Zahiri et al. (2013).

Nanola: M_2 present, M_3+CuA_1 stalked (relatively shortly).

Proneca: M_2 present, M_3+CuA_1 stalked.

Sarbenia: M_2 present, M_3+CuA_1 stalked.

Selca: M_2 present, M_3+CuA_1 fused.

Wittonola: M_2 present, M_3+CuA_1 fused.

According to the above-mentioned findings the quadrifine and trifine type of hindwing venation both widespread in the generic complex, the clarification of the phylogenetic importance of this character requires examination of significantly more taxa. Due to the present knowledge and literature references I do not deem hindwing venation as from a taxonomic point of view key character in the reconstruction of the generic level system of the Nolini as it is supposed in the former works.

The examination of a large Nolini collection material from eastern and south-eastern Asia and the thorough study of all available primary type specimens provided the discovery of a large number of new *Meganola* species and led to the establishment of a number of new genera (László, Ronkay & Witt 2004, 2005, 2006, 2007a, b, 2010, László, Ronkay & Ronkay 2013a, b, c, d, 2014a, b, c, d, e, f, 2015). Due to the increase of the newly discovered taxa, more and more morphological characters have been learnt which allowed me to delineate smaller taxonomic units within the *Meganola* (s.l.) lineage. These studies also provided additional information for the taxonomic assessment of such earlier described and treated as valid genera as *Selca* Walker, 1866, *Proneca* Swinhoe, 1890 and *Ctenane* Swinhoe, 1905 (László, Ronkay & Ronkay 2015a).

The species content of the *Meganola* generic complex has been rapidly increased after the basic works of Inoue (1958, 1970, 1991, 1996, 1998, 2001) and the other experts of this field (Hu et al. 2013a, b, 2014, Han & Li 2008, Shao, Li & Han 2009, and Hacker et al. 2012). This last work has an eminent importance due to the designation of the lectotype of *M. conspicua*, the type species of the genus, and the illustration of its genitalia.

3. Material and methods

The conclusions of the present work are based on, besides the thorough study of the literature, the examination of approximately 8.000 Nolinae specimens preserved in the following museum collections: Hungarian Natural History Museum, Budapest; Natural History Museum, London; Museum Witt, Munich; Zoological State Collection, Munich; Zoological Research Museum Alexander Koenig, Bonn; Naturalis Biodiversity Center, Leiden; State Museum of Natural History, Karlsruhe; German Entomological Institute – Senckenberg Museum, Eberswalde; Zoological Museum of the University, Copenhagen; Natural History Museum, Vienna, National Museum of Natural History, Paris. During the studies I have photographed ca. 3000 specimens along with their original labels using Nikon D90 digital camera. The images were adjusted by Adobe Photoshop CS3 software. The documentation of the habitus of the specimens examined has been completed with the morphological study and documentation of their genital apparatuses: I have dissected some 2500 specimens using the standard method: The detached abdomens had been macerated in 10% KOH and boiled in water-bath for several minutes. The softened abdomens were cleared of hairs, scales and intestine residuals, then the genital apparatus had been dissected off, soaked in lactic acid, then cleared and flattened in the standard position using 96% ethanol for desiccation. The properly prepared genital apparatuses have been stained with eosine red and mounted on microscopic slide in euparal. During the dissection and mounting I used Nikon SMZ745 stereomicroscope. The genitalia photographs have been taken using a Nikon Eclipse 80i compound microscope and a Nikon DS-Fi1 digital camera.

The label data and genitalia slide numbers of all primary type specimens investigated are provided under each species listed in the annotated checklists except in those taxa which have been described by me, where the complete type list is given in the original publication attached as Appendix (1-12). The full list of the specimens examined during the revisional work are not listed here due to the immense numbers but a

considerable part of them is also available in the papers included into the Appendix (1-12).

The following abbreviations are used in the text:

BM – number of genital slide of BMNH

BMNH – British Museum of Natural History, London

DEI – German Entomological Institute, Senckenberg Museum, Eberswalde

HNHM – Hungarian Natural History Museum, Budapest

LGN – Number of genital slide made by Gy.M. László

MNHN – National Museum of Natural History, Paris

MWM – Museum Witt, Munich

NEFU – Northeast Forestry University, Harbin

RMNH – Royal Museum of Natural History (Naturalis Biodiversity Center), Leiden

SCAU – South China Agriculture University, Guangzhou

SMNK – State Museum of Natural History, Karlsruhe

UM – University Museum, Oxford

USNM – Smithsonian Institution, National Museum of Natural History, Washington D.C.

W – Number of genital slide of Museum Witt

ZFMK – Zoological Research Museum Alexander Koenig, Bonn

ZMUC – Zoological Museum of the University, Copenhagen

4. Results

As a result of the works of the earlier mentioned authors, *Meganola* (s.l.) has become one of the most species rich noline genera in the Palaearctic, Oriental and Afrotropical zoogeographical regions, especially in the forested habitats including both the continental areas and the Indonesian Archipelago. Thus, a complete taxonomic revision of this difficult generic complex would be highly desirable. In spite of the thorough and exhausting examinations standing behind the present work, as well as the studies of the above mentioned authors, finishing a classic revision is not yet feasible, by the following reasons. This extraordinarily species-rich and diverse generic complex is distributed worldwide, therefore morphotaxonomic investigation of all known taxa from each continent is inevitable for a sound revision – this task requires investigations of further several thousand specimens and numerous primary types scattered in museum and private collections worldwide, which is far beyond my actual possibilities. Moreover, the clarification of the phylogenetic relationships within the generic complex (as well as between all supraspecific Nolini taxa) requires the application of the

modern molecular methods. This extensive molecular taxonomic study can only be a topic of a new project with firm institutional background where the funds and the technical conditions are given to acquire molecular genetic data in large number.

When the studies on *Meganola* generic complex had been commenced in 2003, the taxonomy of the group as well as the whole tribe Nolini was in a very basic level. Thus, the first period of my studies had to be focused on the separation of distinct genera based on genital morphology which was an inevitable preparatory part of the later studies on the *Meganola* generic complex.

These studies have been completed by a team work under my leading, the publications are authored by all the members of the working team. My co-authors' (Gábor Ronkay, László Ronkay and Thomas J. Witt) contribution to the present studies meant attendance in the following part-works: assistance in locating the extensive literature, help in the manual collection works, checking and sorting the type- and accessory materials in the museum collections, taking part in the photodocumentation, taking part in the creation of digital taxonomic database, in addition typesetting and editing our publications and providing linguistical check of the manuscripts. My own work in the completing of present dissertation is specified and summarized as follows:

- assembling and assessing the extensive taxonomic literature on Noliniinae with special attention to the genus *Meganola*;
- compiling the taxonomic checklist of the whole Noliniinae based on the literature data, specifying the described genera with the available species content supported with reference publications;
- checking and photodocumentating of all the available primary types in different museum collections (see the chapter Material and methods);
- dissecting of the type specimens in order to learn the inevitable genital morphology of all the described taxa;
- dissecting of huge number of additional specimens in order to learn the individual variability of the genital morphology in addition to allow finding out the genitalia characters important for the further taxonomic studies;
- identification of the material examined;
- making decisions in all taxonomic questions – verifying or rejecting literature taxonomic statements, defining distinctive characters on generic, species group or specific rank
- preparing all the descriptions and differential diagnoses of new taxa found in the examined materials;
- providing generic delineations within the *Meganola* s. l. along with definition of the group characters;

- providing an updated checklist of the delineated *Meganola* s. str., *Hampsonola*, *Wittonola*, *Ctenane*, *Nanola*, *Fragilonola*, *Maculonola*, *Proneca* and *Selca* genera;
- providing delineations of species groups with determination of diagnostic characters;
- providing distributional and zoogeographical information on the main lineages;
- providing a grouping of genera being taxonomically related to *Meganola* into genus groups based on morphological characters.

4.1. Taxonomic part

4.1.1. List of the genera taxonomically related to the *Meganola* generic complex

To highlight the complexity of the real generic content and diversity of the Nolini tribe I provide the following alphabetic list of genera being related to the *Meganola* generic complex, skipping the genera belonging to the other lineage of the *Nola* generic complex (Nolina subtribe). The checklist given below can be considered as the most up-to-date one, providing the complete genus content of the subtribe Roeseliidina based on the systematic concept given in Hacker et al. (2012).

Acatapaustus Bethune-Baker, 1904

Acatapaustus Bethune-Baker, 1904, *Novitates Zoologicae* **11**: 415. Type-species: *Acatapaustus basifusca* Bethune-Baker, 1904, by original designation.

Aeneanola László, Ronkay & Ronkay, 2013

Aeneanola László, Ronkay & Ronkay, 2013, *Fibigeriana Supplement* **1**: 172. Type-species: *Pisara acontioides* Walker, 1862, by original designation. (See Appendix 6)

Alcanola László, Ronkay & Witt, 2010

Alcanola László, Ronkay & Witt, 2010, *Esperiana* **15**: 8. Type-species: *Melanographia tympanistis* Hampson, 1900, by original designation. (See Appendix 5)

Aquis Walker, 1858

Aquis Walker, 1858, *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum* **15**: 1652. Type-species *Aquis viridisquama* Walker, 1858, by original designation by monotypy.

Aquita Walker, 1863

Aquita Walker, 1863, *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum* **27**: 200. Type-species: *Aquita horridella* Walker, 1863, *ibidem*, 27: 200, by monotypy.

Barasa Walker, 1862

Barasa Walker, 1862, *Proceedings of the Linnean Society (Zoology)* **6**: 192. Type-species: *Barasa acronyctoides* Walker, 1862, by monotypy.

Barnanola László, Ronkay & Witt, 2010

Barnanola László, Ronkay & Witt, 2010, *Esperiana* **15**: 10. Type-species: *Barnanola atra* László, Ronkay & Witt, 2010, by original designation. (See Appendix 5)

Calonola László, Ronkay & Witt, 2010

Calonola László, Ronkay & Witt, 2010, *Esperiana* **15**: 23. Type-species: *Zia ectrocta* Hampson, 1907, by original designation. (See Appendix 5)

Casminola László, Ronkay & Witt, 2010

Casminola László, Ronkay & Witt, 2010, *Esperiana* **15**: 14. Type-species: *Poecilonola chionobasis* Hampson, 1901, by original designation. (See Appendix 5)

Cornuanola László, Ronkay & Ronkay, 2013

Cornuanola László, Ronkay & Ronkay, 2013, *Fibigeriana Supplement* **1**: 182. Type-species: *Nola brachystris* Hampson, 1905, by original designation. (See Appendix 7)

Ctenane Swinhoe, 1905

Ctenane Swinhoe, 1905, *Annals and Magazine of Natural History* **9**(15): 497. Type-species: *Agrophila labuana* Swinhoe, 1904, by original designation by monotypy.

Dialithoptera Hampson, 1900

Dialithoptera Hampson, 1900, *Catalogue of the Lepidoptera Phalaenae in the British Museum* **2**: 50. Type-species: *Pisara gemmata* Hampson, 1896, by original designation.

Evonima Walker, 1865

Evonima Walker, 1865, *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum* **32**: 505. Type-species: *Evonima aperta* Walker, 1865, *ibidem* **32**: 506, by original designation by monotypy.

Remarks. The taxonomic position of *Evonima* is yet dubious, as Hacker et al. (2012) placed the genus into the subtribe *Nolina* without further explanation. My concept to list this genus under *Roeseliidina* is based on the general configuration of the male genitalia of *Evonima* having simple, not clefted valva and well-developed uncus.

Ezishnola László, Ronkay & Witt, 2010

Ezishnola László, Ronkay & Witt, 2010, *Esperiana* **15**: 26. Type-species: *Ezishnola fuscographa* László, Ronkay & Witt, 2010, by original designation. (See Appendix 5)

Fragilonola László, Ronkay & Ronkay, 2015

Fragilonola László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 288. Type species: '*Meganola*' *igorkostjuki* László, Ronkay & Witt, 2010, by original designation. (See Appendix 12)

Furanola László, Ronkay & Ronkay, 2013

Furanola László, Ronkay & Ronkay, 2013, *Fibigeriana Supplement* **1**: 183. Type-species: *Furanola karsholti* László, Ronkay & Ronkay, 2013, by original designation. (See Appendix 7)

Hamishnola László, Ronkay & Ronkay, 2013

Hamishnola László, Ronkay & Ronkay, 2013, *Fibigeriana Supplement* **1**: 183. Type-species: *Hamishnola barbatella* László, Ronkay & Ronkay, 2013, by original designation. (See Appendix 7)

Hampsonola László, Ronkay & Ronkay, 2015

Hampsonola László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 270. Type species: *Selca indistincta* Hampson, 1894, by original designation. (See Appendix 12)

Hoenenola László, Ronkay & Ronkay, 2013

Hoenenola László, Ronkay & Ronkay, 2013, *Fibigeriana Supplement* **1**: 184. Type-species: *Hoenenola hanhuilini* László, Ronkay & Ronkay, 2013, by original designation. (See Appendix 7)

Inouenola László, Ronkay & Witt, 2010

Inouenola László, Ronkay & Witt, 2010, *Esperiana* **15**: 36. Type-species: *Meganola diversalis* Inoue, 1991, by original designation. (See Appendix 5)

Leucobaeta László, Ronkay & Witt, 2010

Leucobaeta László, Ronkay & Witt, 2010, *Esperiana* **15**: 12. Type-species: *Zia hemiphea* Hampson, 1905, by original designation. (See Appendix 5)

Leuconola László, Ronkay & Witt, 2010

Leuconola László, Ronkay & Witt, 2010, *Esperiana* **15**: 12. Type-species: *Leuconola herczigi* László, Ronkay & Witt, 2010, by original designation. (See Appendix 5)

Maculonola László, Ronkay & Ronkay, 2015

Maculonola László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 289. Type species: *Meganola apiensis* Holloway, 2003, by original designation. (See Appendix 12)

Madanola Hacker, 2012

Madanola Hacker, 2012, *Esperiana* **17**: 587. Type species: *Madanola fuscocandida* Hacker, 2012, by original designation.

Manoba Walker, 1864

Manoba Walker, 1864, *Proceedings of the Linnean Society (Zoology)* **7**: 62. Type-species: *Manoba implens* Walker, 1864, by original designation by monotypy.

Meganola Dyar, 1898

Meganola Dyar, 1898, *Journal of the New York Entomological Society* **6**: 43. Type-species: *Meganola conspicua* Dyar, 1898, by original designation by monotypy.

Membranola Pellinen, 2012

Membranola Pellinen, 2012, *Tinea* **22**(1): 61-63. Type species: *Membranola lampang* Pellinen, 2012, by original designation.

Melanographia Hampson, 1900

Melanographia Hampson, 1900, *Catalogue of the Lepidoptera Phalaenae in the British Museum* **2**: 48. Type-species: *Nola flexilineata* Hampson, 1898, by original designation.

Mokfanola László, Ronkay & Witt, 2010

Mokfanola László, Ronkay & Witt, 2010, *Esperiana* **15**: 27. Type-species: *Mokfanola crustacea* László, Ronkay & Witt, 2010, by original designation. (See Appendix 5)

Nanola László, Ronkay & Witt, 2010

Nanola László, Ronkay & Witt, 2010, *Esperiana* **15**: 38. Type-species: *Nanola hluchyi* László, Ronkay & Witt, 2010, by original designation. (See Appendix 5)

Porcellanola László, Ronkay & Witt, 2006

Porcellanola László, Ronkay & Witt, 2006, *Entomofauna* **27**(21): 268. Type-species: *Porcellanola minna* László, Ronkay & Witt, 2006, by original designation. (See Appendix 2)

Proneca Swinhoe, 1890

Proneca Swinhoe, 1890, *Transactions of the Entomological Society of London* **1890**: 193. Type-species: *Proneca fola* Swinhoe, 1890, by monotypy.

Sarbena Walker, 1862

Sarbena Walker, 1862, *Proceedings of the Linnean Society (Zoology)* **6**: 137. Type-species: *Sarbena lignifera* Walker, 1862, by monotypy.

Selca Walker, 1866

Selca Walker, 1866, *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum* (**34**): 1218. Type-species: *Selca latifascialis* Walker, 1866, by subsequent designation by Hampson, 1900, *Catalogue of the Lepidoptera Phalaenae in the British Museum* **2**: 31.

Suerkenola László, Ronkay & Witt, 2010

Suerkenola László, Ronkay & Witt, 2010, *Esperiana* **15**: 27. Type-species: *Nola longiventris* Poujade, 1886, by original designation. (See Appendix 5)

Toerpenola László, Ronkay & Witt, 2010

Toerpenola László, Ronkay & Witt, 2010, *Esperiana* **15**: 37. Type-species: *Nola laticincta* Hampson, 1896, by original designation. (See Appendix 5)

Vandamia van Son, 1933

Vandamia van Son, 1933, *Annales Transvaal Museum* **15**: 205. Type-species: *Vandamia typica* van Son, 1933, by original designation.

Varganola László, Ronkay & Witt, 2010

Varganola László, Ronkay & Witt, 2010, *Esperiana* **15**: 30. Type-species: *Roeselia flavibasis* Hampson, 1900, by original designation. (See Appendix 5)

Wittonola László, Ronkay & Ronkay, 2015

Wittonola László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 278. Type species: *Wittonola latifasciata* László, Ronkay & Ronkay, 2015, *ibidem*, by original designation. (See Appendix 12)

Xenonola Wileman & West, 1928

Xenonola Wileman & West, 1928, *Entomologist* **61**: 277. Type-species: *Erastroides limbata* Wileman, 1915, by original designation.

The generic distinctness of these genera has been supported by their determinative morphological differences. To clarify the phylogenic relationship between these recognized lineages as well as the now separated supposedly monophyletic units within *Meganola* s.l. generic complex, will require, however the use of tools of molecular biology (DNA sequencing), which can be the topic of a further research project.

4.1.2. Generic delineations within the *Meganola* s. l. with definition of distinctive characters

Due to the high diversity of the generic complex, external morphological characters – including hindwing venation – are only in few cases have been found eligible for generic or species-group characterization, thus the following supraspecific grouping is based mostly on genital morphology. In order to clearly demonstrate the important morphological characters, the male and female genitalia of each nominate species are figured as text figures indicated with Text. fig. numbers in the text. In addition, the adults of each nominate species are illustrated in the Appendix 14 (Colour plates) indicated with Colour fig. numbers after the name of each species-groups or genera.

4.1.2.1. Genus *Meganola* Dyar, 1898 s. str.

Genus *Meganola* Dyar, 1898

(Colour fig. 1)

Meganola Dyar, 1898, *Journal of the New York Entomological Society* **6**: 43.

Type-species: *Meganola conspicua* Dyar, 1898, by original designation by monotypy.

Synonymy

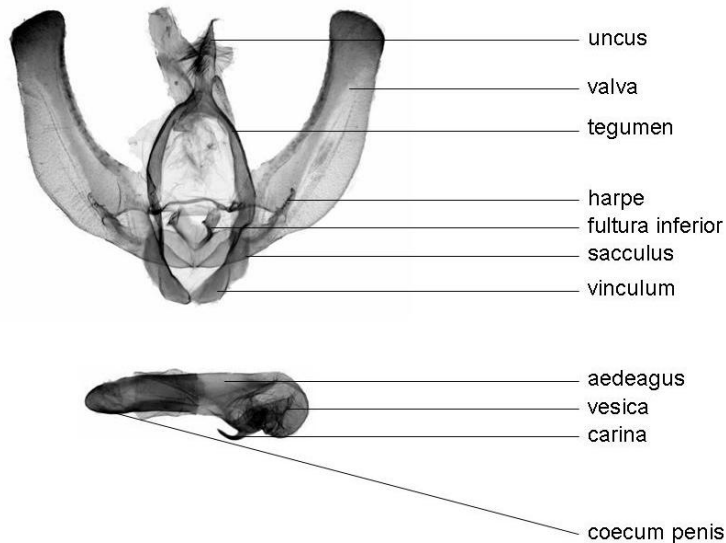
Antennola de Freina & Witt, 1984, *Entomofauna* **5**(23): 267. Type-species: *Nola impura* Mann, 1862, *Wiener Entomologische Monatschrift* **6**: 368, pl. 3, fig. 3, by original designation by monotypy.

Poliiothripa Hampson, 1900, *Annals of the South African Museum* **2**: 311. Type-species: *Poliothripa niphostena* Hampson, 1902;

Metanola van Son, 1933, *Annals of the Transvaal Museum* **15**: 203. Type-species: *Metanola myriostigma* van Son, 1933;

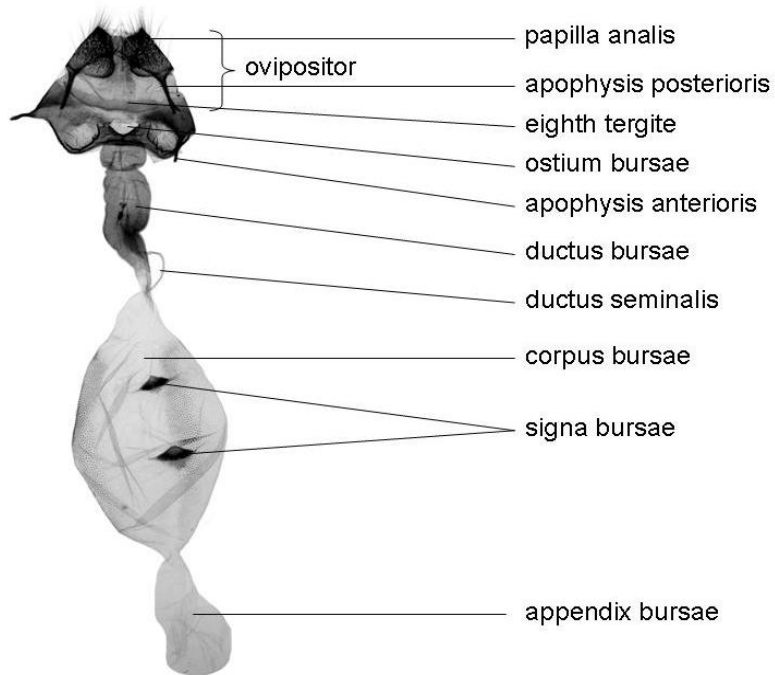
Paranola van Son, 1933, *Annals of the Transvaal Museum* **15**: 222. Type-species: *Paranola bipartita* van Son, 1933.

Characterization of the genus. The type-species of the genus was described from Texas, USA, nevertheless the genus is widespread in all continents. The generic characters are expressed in the genitalia as follows. Male genitalia (Text fig. 1): Uncus always present, variably long, slender to medium thick, apically pointed; socii absent; tegumen simple, without processes (except in *M. scriptoides*); valva unilobate, in some species groups with short ventro-basal dilatation, elongate, apically variably rounded or sometimes truncate, generally slightly curved; harpe present, variable in shape and size, arising from basal plate of valva, being located rather far from ventral margin; sacculus generally weakly developed, in most taxa without processes; vinculum well developed, variably long, U- or V-shaped. Aedeagus tubular, with variable length and thickness; apical process (carinal extension) may be present. Vesica with or without cornuti; armature of cornuti variable in number and size.



Text fig. 1: Male genitalia of *Meganola conspicua* with indication of the most important character-bearing parts

Female genitalia (Text fig. 2): ovipositor short, conical, apophyses short or medium-long, eighth tergite short, quadrangular or medially tapering; ostium bursae and antrum generally strongly sclerotized; ductus bursae usually long, variably thick, with often strongly sclerotized distal section; corpus bursae large, ovoid, generally with a pair of longitudinally aligned, acute, crest- or process-like signa, which in some species connected with ribbon-like scobinated plate.



Text fig. 2: Female genitalia of *Meganola strigula* with indication of the most important character-bearing parts

The characterization of each species-group is given in the updated checklist. This characterization is based, due to the species richness and the large morphological diversity of the genus, mostly on the diagnostic male genitalia characters, although in some cases both external and genital features have been considered in the grouping. The female genitalia are similarly diverse and variable, their characters are eligible in most cases only for specific identification, but proved to be as less informative for the systematic analysis in most cases.

4.1.2.1.1. Revised and annotated checklist of the genus *Meganola* s. str. with characterization of species groups

The *gigantula* species-group

(Colour fig. 2)

Diagnosis. The closest Eurasiatic relative of the Nearctic type-species of the genus. It is worth mentioning that so far only 8 *Meganola* species have been recorded from North America (Lafontaine et Schmidt 2010) and their taxonomy is not studied in this present work. The single Palearctic species of the *gigantula* species-group is externally very similar to *M. conspicua* having graphite-grey forewing ground colour with fine blackish transverse lines. The configuration of the male genitalia (text fig. 3) shows also close relationship with the type-species of the genus, the shared group features are the similar uncus, the valval shape with quadrangular apex, and the similarly narrow, elongate harpe with finely dentate distal margin. The main distinctive character of the two groups is the structure of the carinal plate: it is simple in *M. gigantula*, lacking the well developed, hook-like process which is present in *M. conspicua*.



Text fig. 3: Male genitalia of *Meganola gigantula*

The configuration of the female genitalia (text fig. 4) is similar in the two groups, the shared features are the cup-shaped ostium bursae, the long, sclerotized distal part of ductus bursae, and the pair of fine, spot-like signum bursae.



Text fig. 4: Female genitalia of *Meganola gigantula*

Species content.

Meganola gigantula (Staudinger, 1878)

Roeselia gigantula Staudinger, 1878, *Horae Societatis Entomologicae Rossicae* **14**: 328. Type-locality: [Turkey] Amasia. Holotype: female, in coll. ZMHU.

Type material examined: Holotype female, „Amasia Isk.”, „Origin”, with handwriting: „gigantula Stgr. type” (coll. ZMHU).

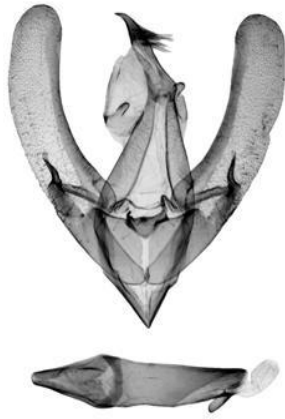
Additional material examined: 1 male, 1 female, Macedonia centr. Treska, Schlucht Matka 400-800 m, 19-29.V.1955, leg. F. Daniel, slide Nos LGN 218 (male), LGN 219 (female) (coll. MWM).

The *tenebrosa* species-group

(Colour fig. 3)

Diagnosis. The common external feature of the members of the species-group is the dark brownish-grey ground colour of forewing with conspicuously blackish median area (with the exception of *M. suffusata* which has pale brownish-grey ground colour, dark brown median area and two conspicuous rows of dots replacing antemedial and postmedial lines). The group characters in the male genitalia (text fig. 5) are the narrow, evenly arcuate, apically rounded valva, the narrow, arched, pointed, thorn-like harpe and the short aedeagus armed by short, but rather conspicuous latero-apical lobe; those of the female genitalia (text fig. 6) are the rounded ostium bursae,

the rather short ductus bursae and the conspicuously large, elongate corpus bursae armed by a pair of remote traverse, thorn-like signa (except in *M. suffusata* which has a single signum).



Text fig. 5: male genitalia of *M. tenebrosa*



Text fig. 6: female genitalia of *M. tenebrosa*

Species content.

Meganola tenebrosa (Hampson, 1896)

Nola tenebrosa Hampson, 1896, *Fauna of British India, Moths* **4**: 504. Type-locality: Bhutan. Holotype: female, in coll. BMNH.

Synonymy

Manoba greenwoodi Holloway, 2003, *The Moths of Borneo* **18**: 44, pl. 2, fig. 58. Type-locality: Borneo, Sarawak, Gunong Mulu National Park, Mulu, 500 m. Holotype: male, in coll. BMNH.

Type material examined: Holotype female, red ring type label, „Bhutan 95-37 2500' 10.VI.95”, with handwriting: „Nola tenebrosa type female, Hmpsn”, slide No. BM Arctiidae 1839 (coll. BMNH).

Holotype of *Meganola greenwoodi*, male, red ring holotype label, „Sarawak, Gunong Mulu Nat. Park. R.G.S. Exped. 1977-8, J.D. Holloway et al. B.M. 1978-206, Site 13. February Camp 2, Mulu 500 m. 401464 Mixed dipt. For. MV-understorey”, slide No. BM Noctuidae 17520 (coll. BMNH).

Meganola guentereberti László, Ronkay & Ronkay, 2014

Meganola guentereberti László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 38-39, pl. 9, figs 5-6; gen. figs 24-25. Type-locality: Nepal, Annapurna Himal, Tadapani. Holotype: male, in coll. MWM. (See Appendix 8)

Meganola margalla László, Ronkay & Ronkay, 2014

Meganola margalla László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 38, pl. 9, figs 3-4; gen. figs 22-23. Type-locality: Pakistan, Islamabad, Margalla Hills. Holotype: male, in coll. MWM. (See Appendix 8)

Meganola basisignata Inoue, 1991

Meganola basisignata Inoue, 1991, *Tyo to Ga* **42**(2): 69, figs 9, 10a, 10b. Type-locality: Japan, Miyagi pref., Sakunami Spa. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring holotype label, „Sakunami Miyagi Prov. 21.VII.1969 T. Watanabe”, with handwriting: „Holotype Meganola basisignata Inoue (1991)”, slide No. BM Arctiidae 4407 (coll. BMNH).

Meganola suffusata (Wileman & West, 1929)

Nola suffusata Wileman & West, 1929, *Annals and Magazine of Natural History* **10**(3): 189. Type-locality: [Taiwan] Formosa, Kanshirei. Holotype: female, in coll. BMNH.

Type material examined: Holotype female, „Formosa. Kanshirei. 19.III.1909. A.E. Wileman. 1913-180., with handwriting: „Nola suffusata Wileman & West female Holotype”, slide No. BM Noctuidae 16480 (coll. BMNH).

The *eleagni* species-group

(Colour fig. 4)

Diagnosis. The two species of this group have pale grey ground colour of forewing with darker transverse lines, while the basic configuration of the valva and the harpe in the male genitalia is identical with those of the members of *tenebrosa* group. The shared characters of the *eleagni* species-group is the absence of the lateral lobe at the distal end of aedeagus, replaced by a conspicuous, strongly sclerotized, slightly arcuate, short apical process (text fig. 7).



Text fig. 7: male genitalia of *M. eleagni*

The major features of the female genitalia (text fig. 8) are practically identical in the *eleagni* and the *tenebrosa* species-groups.



Text fig. 8: female genitalia of *M. eleagni*

Species content.

Meganola elaeagni (Stshetkin, 1980)

Nola elaeagni Stshetkin, 1980, *Izvestija Akademii Nauk Tadshikskoj SSR, Otdelenie biologitsheskih Nauk* **4**(81): 98-100. Type-locality: Tajikistan, Dushanbe. Holotype: male, in coll. ZIN.

Type material examined: Holotype male, with handwriting: „Tadj. 900 m, bei Duschanbe; Sargar. 5.VII.61. a. P. Schyotkin”; Paratype female, with handwriting: „Tadj. 900 m, bei Duschanbe; Sargar. 4.VII.61. a.P. Schyotkin”.

Additional material examined: 1 male, 1 female, „Kazakhstan, Prov. Almaty, 22 km N Masak, 450m, 78°27'E, 43°13'N, 21.VI.1996. leg. Gy. Fábíán and L. Nádai” slide Nos LGN 344 (male), LGN 345 (female) (coll. MWM).

Meganola arenbergeri Hacker, 2012

Meganola arenbergeri Hacker, 2012, *Esperiana* **17**: 229. An objective replacement name for *Roeselia nanula* Wiltshire, 1961, *Beiträge zur Naturkundischen Forschung in Südwestdeutschland* **19**: 338, pl. 2, figs 4, 6, 7, text figs 2-7. Type-locality: Afghanistan, vicinity of Kabul. Holotype: male, in coll. ZSM.

Material examined: Afghanistan: 1 male and 1 female, „25 km N v. Barikot 1800 m, Nuristan 12-17.7.1963, Kasy & Vartian”, slide Nos LGN 318 (male), LGN 289 (female); Pakistan: 1 male, „Himalaya Mts, Kaghan valley, Tathabaya, 2200 m, 73°26'E, 34°36'N, 23.VI.1998 leg. Gy. Fábíán & B. Herczig”, slide No. LGN 130; 1 male, 1 female, „Kashmir, Himalaya Mts, 30 km N Muree, near Nathia Ghali. Ayubia village, 2600 m, 25-27.VI.1998 leg. Gy. Fábíán & B. Herczig”, slide Nos LGN 1385 (male), LGN 300 (female), 1 female, „Himalaya Mts, Kaghan valley, Tathabaya, 2200 m, 73°26'E, 34°36'N, 2.VII.1998 leg. Gy. Fábíán & B. Herczig”, slide No. LGN 1400; Nepal: 1 male, „Annapurna Himal, 4 km E Tadapani, 1920 m, 83°46,5'E, 28°24,5'N, 6.IV.1995 leg. Gy.M. László & G. Ronkay”, slide No. LGN 16; 1 male, „Annapurna Himal 2 km N Landrung, 1540 m, 83°49'E, 28°23'N, 8.IV.1995 leg. Gy. M. László & G. Ronkay”, slide No. LGN 112 (coll. MWM).

The *impura* species-group

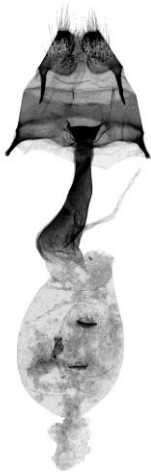
(Colour fig. 5)

Diagnosis. The single known member of the species-group externally reminds to *M. eleagni* but this species is placed into a distinct species-group, due to its strikingly different, long, apically rounded, finger-like harpe (text fig. 9).



Text fig. 9: male genitalia of *M. impura*

The main distinctive character in the female genitalia (text fig. 10) is the considerably longer ductus bursae compared to those of the *eleagni* group.



Text fig. 10: female genitalia of *M. impura*

Species content.

Meganola impura impura (Mann, 1862)

Nola impura Mann, 1862, *Wiener Entomologische Monatschrift* **6**: 368, pl. 3, fig. 3. Type-locality: [Turkey] Asia Minor, Brussa.

Synonymy

Nola impura wiltshirei Warnecke, 1939, in Ellison and Wiltshire, *Transactions of the Entomological Society of London* **88**: 26. Type-locality: Lebanon, Beyrouth. Syntypes: two males, in coll. BMNH.

Type material examined: Holotype of *Meganola impura impura* male, „Origin”, Coll. Led., ex coll. Staudinger, slide No. LGN 1359 (coll. ZMHU). Additional material examined: 1 male, 1 female, „Asia Min. 8.VI.1932, Karadja Bey”; slide Nos LGN 223 (male), LGN 224 (female) (coll. MWM).

Meganola impura centralis (Warnecke, 1938)

Nola impura ssp. *centralis* Warnecke, 1938, *Entomologische Rundschau* **55**: 295. Type-locality: [China] [Xinjiang] Kuldja. Syntypes: in coll. ZMHU.

Synonymy

Meganola silvicola (Stshetkin, 1957)

Nola silvicola Shchetkin, 1957, *Izvestija Otdelenija estestvennih Nauk AN Tadjikiskoi SSR* **21**: 124-128. Without type designation.

Type material examined: Syntype of *Nola impura centralis* male, „Asia centr. Kuldja 85”, slide No. LGN 1377 (coll. ZMHU).

Paratype of *Nola silvicola*, male, „Star. Pristan Vakhsh. 31.VIII.48.”; slide No. LGN 1361 (coll. ZMHU).

The *togatulalis* species-group

(Colour fig. 6)

Diagnosis. The external appearance of *M. togatulalis* is characteristic due to its evenly arcuate, very sharply defined, thick, blackish medial line associated with rather wavy antemedial and postmedial lines. The general configuration of the valva and the harpe is rather similar to that of *M. tenebrosa* but the aedeagus of the *togatulalis* species-group is simple, thin and rather elongate, lacking carinal teeth or processes (text fig. 11), while the presence of a conspicuous latero-apical process is an important distinctive character of the members of the *tenebrosa* species-group.



Text fig. 11: male genitalia of *M. togatulis*

The female genitalia of *M. togatulis* (text fig. 12) have very narrow and long ductus bursae, without sclerotized distal section, and the pair of signa are very small, dot-like, differing strongly from those of most other *Meganola* species.



Text fig. 12: female genitalia of *M. togatulis*

Species content.

Meganola togatulis (Hübner, 1796)

Pyralis togatulis Hübner, 1796, *Sammlung Europäischer Schmetterlinge* **6**: pl. 20, fig. 131. Type-locality: Europe.

Synonymy

Nola togatulana Duponchel, [1845] 1844, an unjustified emendation of *Pyralis togatulalis* Hübner, 1796.

Material examined: Hungary: „Szakonyfalu, 2.VIII.1975, leg. I. Balogh”, slide No. LGN 82; 1 male, „Devecser, Széki erdő, 5.VII.1980, leg. L. Peregovits”, slide No. LGN 84; 1 female „Mecsek hegys. Tubes, 1.VIII.1956, leg. I. Balogh”, slide No. LGN 83; 1 female, „Sukoró, Meleg hegy, legelő, 22.VI.1951, leg. Dr. Gozmány”, slide No. LGN 85 (coll. HNHM); Greece: 1 male, „Tajigetos”, 800 m, 28.05.1989, leg. Stengel”, slide No. LGN 937; Jordan: 1 male, 1 female, „South West, Ar Rajif, ca. 1200 m, early summer 2002, lf., leg. G. Müller”, slide Nos LGN 918 (male), LGN 919 (female); Turkey: 1 male, „Izmir county, 8 km NW of Urla, 7.X.1980, leg. L. Peregovits”, slide No. LGN 217 (coll MWM);

The *pulverata* species group

(Colour fig. 7)

Diagnosis. The only species of this monobasic group has a rather characteristic external appearance expressed by its pale brown forewing with obsolete or deleted transverse lines and conspicuously darker greyish-brown costal margin. The distinctive character of the male genitalia (text fig. 13) is the unique configuration of the harpe: a conspicuously broad-based, evenly arcuate, relatively large lobe, being erected rather remote from the base of valva; this configuration of harpe is unknown in other *Meganola* species.



Text fig. 13: male genitalia of *M. pulverata*

In the female genitalia of *M. pulverata* the ductus bursae-cervix bursae complex is uniquely built (text fig. 14), such structure is so far unknown in other *Meganola* species.



Text fig. 14: female genitalia of *M. pulverata*

Species content.

Meganola pulverata (Wileman & West, 1929)

Rhynchopalpus pulverata Wileman & West, 1929, *Annals and Magazine of Natural History* **10**(3): 193. Type-locality: [Taiwan] Formosa, Kanshirei. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring type label, „Formosa. Kanshirei. 14.IV.1909. A.E. Wileman. 1913-180”, with handwriting: „*Roeselia pulverata* Wileman & West Holotype male”, slide No. BM Noctuidae 8939 (coll. BMNH).

Additional material examined: 1 male, 1 female, „Taiwan, Prov. Taipei, Hsiapen, 650 m, 11.VII.1997, leg. B. Herczig & Y.Y. Lien”, slide Nos LGN 1391 (male), LGN 1392 (female) (coll. MWM).

The *ascripta* species-group

(Colour fig. 8)

Diagnosis. The species belonging to this group are externally rather diverse. The shared characters of the group are the elongate, apically rounded, distally dentate harpe arising in the middle of valval plate and the simple, narrow, apically finely dentate aedeagus without carinal process (text fig. 15).



Text fig. 15: male genitalia of *M. ascripta*

In the female genitalia (text fig. 16), the only common feature is the long, narrow, strongly sclerotized ductus bursae without membranous section; signum bursae varies largely within the group.



Text fig. 16: female genitalia of *M. ascripta*

Species content.

Meganola ascripta (Hampson, 1894)

Selca ascripta Hampson, 1894, *Fauna of British India, Moths* 2: 144. Type-locality: [India] [Nagaland] Naga Hills, 5000-7000 feet. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring type label, „Naga hills, 5000-6000 ft., Aug.-Sept. 1889 W. Doherty”, with handwriting: „*Callinola ascripta* Hmps. Type male”, (coll. BMNH).

Additional material examined: 1 male, „Nord-Vietnam Farin-Pass 1600 m, 20 km NW Son-la (21°22'N, 103°52'E) 11-13.XI.1994 leg. Sinjaev & Simonov”, slide No. LGN 606 (coll. MWM); 1 female, „Khasis, 5000 ft., Shillong 6.IX.1927 Fletcher coll.”, slide No. LGN 1325 (coll. BMNH); 1 male, „N-Thailand, Prov. Nan, Doi Phuka NP, between Pua and Bo Luang 1350 m, 101°05'E, 19°12'N, 3.XI.2002, leg. B. Herczig & G. Ronkay”, slide No. LGN 754 (coll. HNHM).

Meganola subascripta Hu, László, Ronkay & Wang, 2013

Meganola subascripta Hu, László, Ronkay & Wang, 2013, *Zootaxa* **3608** (7): 596, figs 1-4. Type-locality: China, Guangdong, Nanling. Holotype: male, in coll. SCAU. (See Appendix 9)

Meganola argentescens (Hampson, 1895)

Pisara argentescens Hampson, 1895, *Catalogue of the Lepidoptera Phalaenae in the British Museum* **5**: 296. Type-locality: [India] Sikkim. Holotype: female, in coll. BMNH.

Type material examined: Holotype female, red ring type label, “Sikkim. 2.10.90. G.C. Dudgeon 94-52”, with handwriting: “*Selca argentescens* type female Hmps”, slide No. BM Arctiidae 1848 (coll. BMNH).

Additional material examined: 1 male, “Nepal, Ganesh Himal, 1700 m, 3 km W Gogne, 85°12'E, 28°05,5'N, 23.IX.1995, leg. B. Herczig & Gy.M. László”, slide No. LGN 789; 1 female, Nepal, Annapurna Himal valley of Kali Gandaki, 1300 m, near Tatopani, 83°39'E, 28°29'N, 20.VI.1996, leg. Gy.M. László & G. Ronkay”, slide No. LGN 788; 1 male, “Thailand, Changwat Nan, 30 km E of Pua, 1700 m, 20-21.VI.1998, leg. I. Soós & A. Szabó”, slide No. LGN 150 (coll. MWM).

Meganola jinghongensis (Shao, Li & Han, 2009)

Manoba jinghongensis Shao, Li & Han, 2009, *Tinea* **20** (5): 307-308. Type locality: China, Prov. Yunnan, Jinghong city. Holotype: male, in coll. Northeast Forestry University, Harbin. (For the publication of the new combination see Appendix 12)

Meganola tarka László, Ronkay & Witt, 2010

Meganola tarka László, Ronkay & Witt, 2010, *Esperiana* **15**: 45, pl. 11, figs 16-17; gen. fig. 46. Type-locality: Thailand, Chantaburi, Khao Soi Dao, 300 m. Holotype: male, in coll. BMNH. (See Appendix 5)

Meganola tomkovichi László, Ronkay & Ronkay, 2014

Meganola tomkovichi László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 37, pl. 8, figs 7-8; gen. figs 20-21. Type-locality: India, Daitari, Orissa. Holotype: male, in coll. HNHM. (See Appendix 8)

The *gigas* species-group

(Colour fig. 9)

Diagnosis. The shared characters of the species-group are the quadrangular valva shape with broad sclerotized stripe along ventral margin; the large, thorn-like or quadrangular harpe erected in the inner part of valva; and the aedeagus possesses apical dentation or a single process (text fig. 17).



Text fig. 17: male genitalia of *M. gigas*

The female genitalia (text fig. 18) are characterized by the thick funnel-like or tubular distal section of ductus bursae and the large, sphaerical corpus bursae.



Text fig. 18: female genitalia of *M. gigas*

The association of *M. subgigas* with the *gigas* species-group is still tentative, as the male genitalia of this species, despite the confusingly similar external appearance with *M. gigas* and *M. protogigas*, differ strongly from those of the other taxa, lacking the above mentioned characters. Subsequent studies are needed to clarify this question, including the examination of the female genitalia.

Species content.

Meganola gigas (Butler, 1884)

Nola gigas Butler, 1884, *Annals and Magazine of Natural History* **5**(13): 274.
Type-locality: [Japan] Yesso. Holotype: female, in coll. BMNH.

Synonymy

Nola maculata Staudinger, 1887, *Mémoires sur les Lépidoptères* **3**: 180.
Type-locality: [Russia] [Far East] Suifun. Syntypes: two males, in coll. ZMHU.

Roeselia nigromaculata Nagano, 1918, *Insect World* **22**: 414. Type-locality: Japan.

Type material examined: Holotype female, red ring type label, „Yosso 1882”, with handwriting: „Yesso 84-14”, „Nola gigantea female Butler Type”, slide No. LGN 1296 (coll. BMNH).

Syntype of *Nola maculata* male: „Suifun 85”, with handwriting: „maculata Stgr.”, slide No. LGN 1369 (coll. ZMHU).

Additional material examined: 1 male, „Japan Hokkaido Asahi-Mura 24.VII.56.”, slide No. LGN 1446; 1 male, „Korea, Prov. North Pyongan Mt.

Myohyang-san Hotel Myohyang-san, 18.07.1982, No. 829 leg. Dr. L. Forró and Dr. L. Ronkay”, slide No. LGN 1445 (coll. MWM).

Meganola protogigas (Inoue, 1970)

Roeselia protogigas Inoue, 1970, *Bulletin of the Japan Entomological Academy* **6**: 3, pl. 1, figs 1, 35. Type-locality: Japan, Shimane Pref., Ichibata. Holotype male, in coll. BMNH.

Type material examined: Holotype male, red ring holotype label, „Ichibata Shimana Pref. 24.VI.1970 H. Oshima”, slide No. BM Arctiidae 4388 (coll. BMNH).

Additional material examined: 1 male, „Lungtan bei Nanking Prov. Kiangsu, China 11.6.1933. H. Höne”, slide No. LGN 897 (coll. MWM).

Meganola bicoloria László, Ronkay & Ronkay, 2014

Meganola bicoloria László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement* **2**: 41, pl. 10, figs 5-6; gen. figs 33-34. Type-locality: China, Chekiang, West-Tien-Mu-Shan. Holotype: male, in coll. ZFMK. (See Appendix 8)

Meganola subgigas (Inoue, 1982)

Meganola subgigas Inoue, 1982, in Inoue *et al.*, *Moths of Japan* **1**: 665, pl. 229, figs 45-46, pl. 354, fig. 8, pl. 351, fig. 10. Type-locality: Japan, Hokkaido, Oshima, Nakayama Pass. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring holotype label, „Nakayama Pass Kametagan Hokkaido 14.VII.1979 T. Inoko” (coll. BMNH).

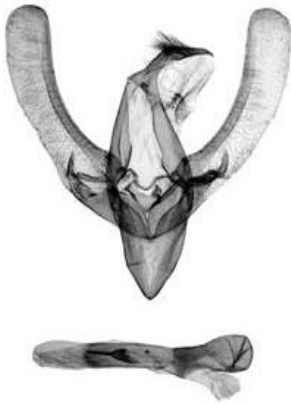
Additional material examined: 1 female, „USSR-S. Primorye, Lazo 18.7.76. 43°25'N, 133°55'E, lg. Lind ex coll. Schintlmeister”, slide No. LGN 53; 1 male, „GUS, Far East Ussuri-Gebiet Primorje Barabash-Levada 3-6.7.1992 leg. A. Poltawski”, slide No. LGN 52 (coll. MWM).

The major species-group

(Colour fig. 10)

Diagnosis. The species group contains a single, very widespread, easily recognisable species displaying an intense geographical subspeciation. The subspecies differ from the nominate species generally by external characters as groundcolour and tone of forewing, however in some cases e.g. in *M. major mahera* and *M. m. takasago* slight, but consequent morphological differences are found in the male and female genitalia as well, expressed by

the length of the cornutus of vesica and the shape of apophyses, in addition the length and configuration of the extremely long and conspicuously curved ductus bursae compared to those characters of *M. m. major*. The clasp apparatus has the same basic structure as that of the *tenebrosa* species-group, the main distinctive features are expressed in the configuration of the aedeagus. The aedeagus of the *major* species-group lacks the apical processes but possesses spherical coecum penis, and the vesica is armed with a broad-based, robust single cornutus (text fig. 19). In the *tenebrosa* group, the carina is armed with conspicuous latero-apical process, the coecum penis is tapering, while the vesica lacks cornuti.



Text fig. 19: male genitalia of *M. major major*

The distinctive character of the female genitalia, being unique for the *major* species-group, is the very long, curved, strongly sclerotized ductus bursae (text fig. 20).



Text fig. 20: female genitalia of *M. major major*

Species content.

Meganola major major (Hampson, 1891)

Nola major Hampson, 1891, *Illustrated Typical Specimens of the Lepidoptera Heterocera in the Collection of the British Museum* **8**: 4, 48, pl. 139, fig. 13. Type-locality: India [Tamil Nadu], Nilgiri district. Syntypes: in coll. BMNH.

Type material examined: Syntype female, red ring type label, “Nilgiris. Hampson Coll. 89-129”, with handwriting: “Nola major Hampson type female”, slide No. BM Arctiidae 449 (coll. BMNH).

Additional material examined: Vietnam: 1 male, “Prov. Tuyen Quang Na Hang Nature Reserve, 300 m, 105°5'E, 22°3'N, 22.II.-5.III.1997 leg. G. Csorba”, slide No. LGN 1170; 1 male, “Mt. Fan-si-pan Cha Pa, 2400 m, NN (22°15'N 103°46'E) 8-29.V.1993 leg. Sinjaev & Simonov”, slide No. LGN 1171; India: 2 females, “Kerala, 6 km N Munnar, 1700 m, Kodelar Tea Estate, 10°06'N, 77°04'E, 14-15.4.1997 leg. Schintlm. & Sinjaev”, slide Nos LGN 1439, LGN 1440 (coll. MWM).

Meganola major caesiopennis (Inoue, 1982)

Meganola major caesiopennis Inoue, 1982, in Inoue *et al.*, *Moths of Japan* **1**: 666. Type-locality: Japan, Amami-Oshima Island, Nishninakama. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring holotype label, „Nishinakama, Amami-oshima Jul. 19-20. 1963 H. Inoue leg.”; paratype, male, „Onoaida, Yakushima 26.IX.1972 T. Watanabe”, slide No. 5276 (Inoue) (coll. BMNH).

Meganola major fulvusana Sung-Hwan Oh, 1991

Meganola fulvusana Sung-Hwan Oh, 1991, *Systematics of the family Nolidae (Lepidoptera) in Korea*: 66, figs 18, 50, 81, 112. Type-locality: Korea (South), Prov. Gangweon, Yangyang Holotype: male, in coll. Kangwon National University Chuncheon.

(For the publication of the new status, see Appendix 12)

Meganola major phaea (Hampson, 1900)

Nola phaea Hampson, 1900, *Catalogue of the Lepidoptera Phalaenae in the British Museum* 2: 35, pl. 19, fig. 2. Type-locality: China, Ichang. Holotype: female, in coll. BMNH.

(For the publication of the new status, see Appendix 12)

Type material examined: Holotype female, red ring type label, „Ichang H.R. Hobson 91-45.”, with handwriting: „Nola phaea type female Hmpsn”, slide No. BM Arctiidae 4463 (coll. BMNH).

Additional material examined: 1 female, „Szetschwan, Omisien, Exp. Stötzner”, slide No. LGN 1476 (coll. MWM); 1 male, „Schanghai (China) Provinz Kiangsu 3.7.1944 H. Höne”, slide No. LGN 1975; 1 female, „Schanghai (China) Provinz Kiangsu 28.6.1943 H. Höne”, slide No. LGN 1976 (coll. ZFMK).

Meganola major takasago Inoue, 1982

Meganola major ssp. *takasago* Inoue, 1982, in Inoue *et al.*, *Moths of Japan* 1: 666. Type-locality: [Taiwan] Formosa. Holotype: male, in coll. BMNH.

Synonymy

Nola formosana Wileman & West, 1929, *Annals and Magazine of Natural History* 10(3): 190. Type-locality: Formosa. Holotype: female in coll. BMNH. A junior secondary homonym of *Roeselia formosana* Wileman & West, 1928; the replacement name is *Meganola major* ssp. *takasago*.

Type material examined: Holotype of *Nola formosana*: male, red ring type label, „Formosa. 3.VIII.1908. A.E. Wileman. 1913-180”, slide No. BM Noctuidae 8940 (coll. BMNH).

The *brunellus* species-group
(Colour fig. 11)

Diagnosis. The single member of the species group has a very characteristic external appearance, with its extraordinarily long palpus and wingshape reminding certain species of the erebid subfamily Hypheninae. Surprisingly, the male genitalia (text fig. 21) are very similar to those of the *major* species-group, indicating their close relationship.



Text fig. 21: male genitalia of *M. brunellus*

The separation of the *major* and the *brunellus* species groups is supported by, besides the rather unique habitus of the latter one, the configuration of the female genitalia. *Meganola brunellus* has, in contrary with the extraordinarily long ductus bursae of *M. major*, conspicuously short ductus bursae (text. fig. 22).



Text fig. 22: female genitalia of *M. brunellus*

Species content.

Meganola brunellus (Hampson, 1893)

Roeselia brunellus Hampson, 1893, *Illustrations of Typical Specimens of Lepidoptera Heterocera in the Collection of the British Museum* **9**: 15, 89, pl. 158, fig. 31. Type-locality: [Sri Lanka] Ceylon, Pundaloya. Type(s): in coll. BMNH.

Synonymy

Nola brunella Hampson, 1900, *Catalogue of the Lepidoptera Phalaenae in the British Museum*. **2**: 34. An unjustified emendation of *Nola brunellus* Hampson, 1893;

Meganola pseudohypena Inoue, 1982, in Inoue *et al.*, *Moths of Japan* **1**: 667, pl. 154, figs 26-27, pl. 351, fig. 1, pl. 353, fig. 9. Type-locality: Japan, Ishigaki Island, Mt. Banna. Holotype: female, in coll BMNH.

Celamoides corticella van Eecke, 1926, *Zoologische Mededeelingen Leiden* **9**: 39, pl. 2, fig. 10. Type-locality: [Indonesia] Sumatra, Fort de Kock. Syntypes: nine specimens, in coll. RNH Leiden.

Type material examined: Holotype male, red ring type label, “Pundaloya Ceylon”, Arctiidae slide No. BM Arctiidae 450 (coll. BMNH).

Holotype of *Meganola pseudohypena*: female, red ring holotype label, “Banza, Ishigaki I. 23.VII.1965 H. Inoue” (coll. BMNH).

Holotype of *Celamoides corticella*: male, “Fort de Kock Sumatra, 920 m Jan. 1921 leg. E. Jacobson”, slide No. JDH 2002:12 (coll. RMNH)

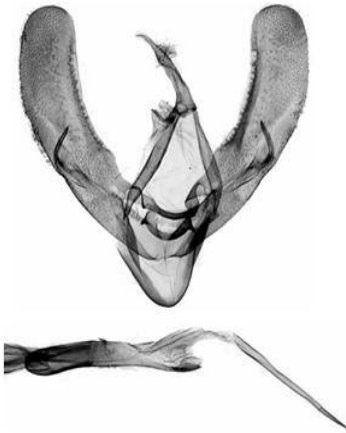
Additional material examined: Nepal: 1 male, 1 female “Annapurna Himal, Bhaleodar, 2400 m, 2 km SE Nangethanti, 83°44'E, 28°23'N, 8.X.1994 leg. Csorba & Ronkay”, slide No. LGN 1 (female), LGN 2 (male); 1 male, “Java Mt. Pangrange 30 km SE Bogor 1625 m, 6°30'S, 107°10'E, 6-20.2.1996 leg. Sinjaev & Afonin”, slide No. LGN 311; 1 male, “W Sumatra Mt. Talamau, 12 km S Talu 0°08'N, 99°59'E 1800 m, 11.9.1991 leg. Graul & Schintlmeister”, slide No. LGN 599 (coll. MWM).

The *flexilineata* species-group

(Colour fig. 12)

Diagnosis. The members of this species-group have conspicuously complex, easily recognisable wing pattern. In addition, their male genitalia (text fig. 23) are also very characteristic expressed by their long harpe which is apically rounded, ribbon-like, arising rather remote from the base of valva at the ventral margin and projecting towards the inner section of the valva. The costal sclerotization of valva is strong and broad, covering the whole apical

third of valva. The aedeagus is rather narrow, medium-long; the vesica is armed with a single, robust, conspicuously long cornutus.



Text fig. 23: male genitalia of *M. flexilineata*

Despite the striking group features of the male genitalia, the female genitalia show the general *Meganola* ground plan, without special character (text fig. 24).



Text fig. 24: female genitalia of *M. flexilineata*

Species content:

Meganola flexilineata (Wileman, 1916)

Roeselia flexilineata Wileman, 1916, *Entomologist* **56**: 132. Type-locality: Philippines, Luzon, Subprov. Benguet, Palali, 2000 feet. Holotype: male, in coll. BMNH.

Synonymy

Celama scriptrix van Eecke, 1926, *Zoologische Mededeelingen Leiden* **9**: 46, pl. 2, fig. 15. Type-locality: [Indonesia] Sumatra, Fort de Kock, 920 m. Holotype: female, in coll. RNH Leiden.

Type material examined: Holotype male, red ring type label, „Palali subprov. Benguet, Luzon. 2000 ft. 26.XII.1912. A.E. Wileman.”, with handwriting: „*Roeselia flexilineata* sp.n, Type male”, slide No. LGN 1287 (coll. BMNH).

Holotype of *Celama scriptrix*: female, „Fort de Kock (Sumatra) 920 m, July 1921 leg. E. Jacobson”, slide No. LGN 907 (coll. RMNH).

***Meganola triangulalis* (Leech, 1890)**

Nola triangulalis Leech, 1890, *Proceedings of the Zoological Society of London* **1888**: 608, pl. 31, fig. 12. Type-locality: Japan, Satsuma. Holotype: female, in coll. BMNH.

Type material examined: Holotype female, red ring type label, „Satsuma May, 1886. Leech”, with handwriting: „*Nola triangulalis*, n.s.” (coll. BMNH).

Additional material examined: 1 male, „Thailand, Prov. Nan, 25 km N of Bo Luang, 1150 m, 17.XI.1998, leg. T. Csövári & L. Mikus”, slide No. LGN 1057; 1 male, „Vietnam, Prov. Nghe An, Distr. Que Phong, Ban Khom 280 m, 19°1035'N, 104°54,1'E, 21-23.I.1999. leg. G. Ronkay”, slide No. LGN 1172; 1 male, 1 female, „Taiwan, Prov. Pingtung, 10 km E of Mutan, 400 m, 7-8.IV.1997 leg. Csorba & Ronkay”, slide Nos LGN 118 (male), LGN 119 (female) (coll. MWM).

The *albula* species-group

(Colour fig. 13)

Diagnosis. Externally rather diverse species-group, its shared characters are the relatively short and broad valva, the long, apically pointed vinculum, the long, thin aedeagus with vesica armed by a single, long, needle or scythe-like cornutus in males (text fig. 25);



Text fig. 25: male genitalia of *M. albula albula*

the narrow, V-shaped ostium bursae, the thin, strongly sclerotized distal part of ductus bursae and the pair of large, triangular signum bursae arising relatively closely to each other (females) (text fig. 26).



Text fig. 26: female genitalia of *M. albula albula*

The nominate species of the group is a widely dispersed transpalearctic species and subdivided to several subspecies. The subspecific segregation is based exclusively on superficial external morphology expressed by the coloration and tone of forewing ground colour.

Species content.

Meganola albula albula ([Denis & Schiffermüller], 1775)

Noctua albula [Denis & Schiffermüller], 1775, *Ankündigung eines Systematischen Werkes von den Schmetterlinge der Wiener Gegend 1775*: 69. Type locality: [Austria] Vienna region. Type(s) destroyed.

Synonymy

Pyralis albulalis Hübner, 1796, *Sammlung Europäischer Schmetterlinge 6*: pl. 3, fig. 14. An unjustified emendation of *Noctua albula* [Denis & Schiffermüller], 1775;

Roeselia albulana Hübner, [1825] 1816, *Verzeichniss bekannter Schmettlinge*: 397. An unjustified emendation of *Noctua albula* [Denis & Schiffermüller], 1775;

Nola albula var. *nivalis* Caradja, 1934, *Deutsche Entomologische Zeitschrift. Gesellschaft Iris zu Dresden 40*: 189. Type-locality: Romania. Type(s): in coll. Antipa Museum, Bucharest.]

Material examined: 1 male, „Kiskunság NP. Fülöpháza homokbuckák 9.9.1978 leg. Cs. Szabóky”, slide No. LGN 78; 1 female, „Sopron-Bánfalva Hungaria occ. 14-18.VII.1955, leg. Dr. Issekutz”, slide No. LGN 79; 1 male, „Slovakia, Kamenica, 9.7.73., leg. L. Cervinka”, slide No. LGN 943 (coll. HNHM).

Meganola albula formosana (Wileman & West, 1928)

Roeselia formosana Wileman & West, 1928, *Entomologist 61*: 276. Type-locality: [Taiwan] Formosa, Kanshirei. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring type label, „Kanshirei, Formosa. 1000 ft. 21.VII.1905. A.E. Wileman.”, with handwriting: „Roeselia formosana Wileman & West Holotype male”, slide No. LGN 720 (coll. BMNH).

Meganola albula mesotherma (Hampson, 1914)

Roeselia mesotherma Hampson, 1914, *Catalogue of the Amatidae and Arctiidae (Nolinae and Lithosiinae) in the Collection of the British Museum 1914*: 427, pl. 24, fig. 23. Type-locality: China [Sichuan], Chunking. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring label, “Chunking, China. W.R. Brown. 1912-489. 11.VIII.1912”, with handwriting: “Roeselia mesotherma type male Hmpsn”, slide No. LGN 713 (coll. BMNH).

Meganola albula pacifica (Inoue, 1958)

Roeselia albula ssp. *pacifica* Inoue, 1958, *Kontyu* **26**: 234. Type-locality: Japan, Shizuoka Pref., South Izu, Nashimoto. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring holotype label, “May 31-June 1 1957 Nashimoto s. Izu Shizuoka T. Haruta” (coll. BMNH).

Additional material examined: 1 male, “USSR-S Primorye Kedrowaja Pad 44°25’N, 130°40’E coll. Schintlmeister”, slide No. LGN 221; 1 female, “USSR Far East Sikhote Alin Mts. Yasnov 43°40’N, 134°00’E 9-14.July1990 leg. Z. Weidenhoffer”, slide No. LGN 222 (coll. MWM).

Meganola daminga Hu, Han & Wang, 2013

Meganola daminga Hu, Han, László, Ronkay & Wang, 2013, *Zootaxa* **3608** (7): 600, figs 15-16. Type-locality: China, Guangxi, Damingshan. Holotype: male, in coll. SCAU. (See Appendix 9)

Meganola hoenei László, Ronkay & Ronkay, 2014

Meganola hoenei László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement* **2**: 42, pl. 11, fig. 3; gen. fig. 38. Type-locality: China, Prov. Hunan, Hoengshan. Holotype: male, in coll. MWM. (See Appendix 8)

Meganola ohsunghwani László, Ronkay & Ronkay, 2014

Meganola ohsunghwani László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement* **2**: 40, pl. 10, figs 1-2; gen. figs 29-30. Type-locality: China, Prov. Shaanxi, Mien-shan. Holotype: male, in coll. MWM. (See Appendix 8)

Meganola costalis (Staudinger, 1887)

Nola costalis Staudinger, 1877, *Mémoires sur les Lépidoptères* **3**: 179, pl. 10, fig. 3. Type-locality: [Russia] [Far East] Askold [Island]. Syntypes: one female and three males, in coll. ZMHU.

Synonymy

Roeselia melanocosta Inoue, 1961, *Rikusuisha* **1961**: 683. Type-locality: Japan, Gumma Pref., Kumanotaira. Holotype: male, in coll. BMNH.

Type material examined: Syntype male, “Ussuri Dörr. 82”; Syntype, female, “Askold Dörr. 83”, slide No. LGN 1368; Syntype male, “*Roeselia costalis* Stgr. Hps.”, slide No. LGN 1367 (coll. ZMHU).

Holotype of *Roeselia melanocosta*: male, red ring holotype label, “Kumanotaira Gumma Pref. 29.VII.1959 H. Inoue”, slide No. BM Arctiidae 4383 (coll. BMNH).

Additional material examined: 1 female, labelled as origin, “Compared with type female A.E.W. 29.XI.1928”, slide No. BM Noctuidae 9733 (coll.

BMNH); 1 female, “Taiwan, Prov. Tai-Tung, 2 km E Hsiangyang, 2200 m, 06.07.1996 leg. G. Csorba & L. Németh”, slide No. LGN 1442 (coll. MWM).

Meganola postmediana László, Ronkay & Witt, 2010

Meganola postmediana László, Ronkay & Witt, 2010, *Esperiana* **15**: 48, pl. 7, fig. 6; gen. fig. 44. Type-locality: North Thailand, Prov. Chiang Mai, between Chiang Dao and Kariang, 900 m, 98°48'E, 19°25'N. Holotype: male, in coll. MWM. (See Appendix 5)

The *nitida* species-group

(Colour fig. 14)

Diagnosis. All members of the *nitida* species-group are characterised by their silvery whitish forewing ground colour decorated with conspicuous, sharply defined blackish transverse lines and costal patches.

In the male genitalia (text fig. 27) the shared features are the narrow, medially laced valva, the acute, claw-like harpe bent in right angle towards ventral margin of valva, the conspicuously short vinculum and the medium-long, narrow aedeagus with vesica armed with a group of variably long, acute cornuti.



Text fig. 27: male genitalia of *M. nitida*

In the female genitalia (text fig. 28), the diagnostic feature of the species-group is the conspicuous medial dilatation of the strongly sclerotized ductus bursae.



Text fig. 28: female genitalia of *M. nitida*

Species content.

Meganola nitida (Hampson, 1894)

Selca nitida Hampson, 1894, *Fauna of British India, Moths* 2: 147. Type-locality: [India] Manipur. Holotype: female, in coll. BMNH.

Type material examined: Holotype female, red ring type label, “Mao Manipur 5.7. Doherty”, slide No. BM Arctiidae 1846 (coll. BMNH)

Additional material examined: 1 male, Nepal, Mechi, Taplejung area Nesum village, 1550 m, 87°29'E, 27°17'N, 21.X.1996, leg. Gy.M. László & G. Ronkay”, slide No. LGN 920; 1 female, Nepal, Ganesh Himal, 1700 m, 3 km W Gogne, 85°12'E 28°05,5N, 23.IX.1995, leg. B. Herczig & Gy.M. László”, slide No. LGN 921 (coll. MWM).

Meganola subnitida László, Ronkay & Witt, 2007

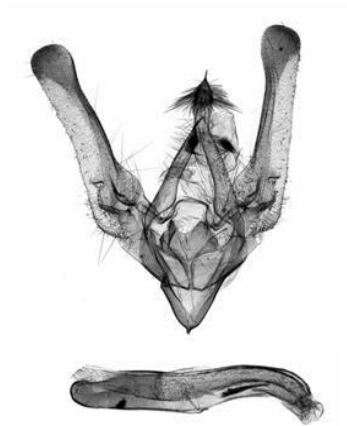
Meganola subnitida László, Ronkay & Witt, 2007, *Entomofauna* 28(14): 160, figs 5-7, 15. Type-locality: North Thailand, Prov. Nan, Doi Phuka NP, between Pua and Bo Luang, 1350 m, 101°05'E, 19°12'N. Holotype: male, in coll. MWM. (See Appendix 4)

Meganola mediofusca László, Ronkay & Witt, 2007

Meganola mediofusca László, Ronkay & Witt, 2007, *Entomofauna* 28(14): 161, figs 8-10, 16, 20. Type-locality: Taiwan, Ilan County, Ming Chyr Forest Recreation Area, 1200 m. Holotype: male, in coll. HNHM. (See Appendix 4)

The *fuscimarginalis* species-group
(Colour fig. 15)

Diagnosis. The characters defining this species group are the short, crest-like harpe and the presence of an additional, similarly shaped lobe arising from the costal margin and running parallel with the harpe (text fig. 29); these features are unique, appearing exclusively in this species-group. In addition, the aedeagus of *M. fuscimarginalis* is curved in its apical section, and the vesica is armed by a single, relatively large, acute cornutus.



Text fig. 29: male genitalia of *M. fuscimarginalis*

Species content.

Megalopa fuscimarginalis (Wileman, 1914)

Nola fuscimarginalis Wileman, 1914, *Entomologist* **47**: 161. Type-locality: [Taiwan] Formosa, Garambi. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring type label, “Garambi, Formosa. 5.XI.1904. A.E. Wileman.”, with handwriting: “*Nola fuscimarginalis* sp.n. Type male”, slide No. BM Noctuidae 8942 (coll. BMNH).

Additional material examined: 1 male, “Indonesia, Flores W, Prov. Nusa Tenggara Timur, Mt. Ranaka (N), 9 km E Ruteng, 1140 m 14-15.4.1996 leg. Dr. R. Brechlin”, slide No. LGN 544; 1 male, “S. Cambodia Sve Gong env. Kirirom, 720 m, 4-12.I.2001 leg. L. Chernyshev & V. Kosov”, slide No. LGN 1706 (coll. MWM).

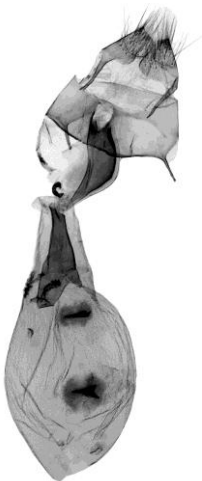
The *punctilinea* species-group
(Colour fig. 16)

Diagnosis. The characteristic external feature of this group is the absence of continuous transverse lines, those are replaced by a row of blackish dots; this feature is unique within the genus. The diagnostic features of the male genitalia (text fig. 30) are the rather broad valva, the thick, short, apically rounded, broad-based harpe and the very short but thick aedeagus having short apical tooth, with its vesica bearing large cornuti field consisting of long, acute cornuti.



Text fig. 30: male genitalia of *M. punctilinea*

The main distinctive character of the female genitalia (text fig. 31) is the conspicuously thick ductus bursae with very short sclerotized section at the ostium bursae.



Text fig. 31: female genitalia of *M. punctilinea*

Species content.

Meganola punctilinea (Wileman & South, 1919)

Pisara punctilinea Wileman & South, 1919, *Entomologist* **52**: 270. Type-locality: Philippines, Mindanao, Lanao, Kolambugan. Holotype: female, in coll. BMNH.

Type material examined: Holotype female, red ring type label, “Bhutan. Dudgeon. 95-203. 2500’ 14.VIII.95”, slide No. BM Arctiidae 1645 (coll. BMNH).

Additional material examined: 1 male, “Nord Vietnam Mt. Fan-si-pan Cha Pa, 2400 m, (22°15’N 103°46’E) 8-29.V.1993 leg. Sinjaev & Simonov”, slide No. LGN 231; 1 male, 1 female, “Taiwan, Prov. Pingtung, 300 m, Kenting N.P. Kenting F.R.A. 21°57’62”N, 120°48’89”E, 17-18.IV.1997 leg. L. Peregovits & A. Kun”, slide Nos LGN 497 (male) LGN 499 (female) (coll. MWM).

The *calligrapha* species-group

(Colour fig. 17)

Diagnosis. The externally rather different species belonging to this group have similar genitalia structure in both sexes. The shared features of the male genitalia (text fig. 32) are the very short, pointed uncus, the broad-based, very long, narrow, pointed harpe arising very remote from the base of valva and extending towards the valval apex, the rather broad, medium-long vinculum and the long, thin aedeagus with vesica armed with a single cornutus.



Text fig. 32: male genitalia of *M. calligrapha*

The main group character of the female genitalia (text fig. 33) is the presence of variably developed lobes at the proximo-lateral margins of the 8th sternite.



Text fig. 33: female genitalia of *M. calligrapha*

Species content.

Meganola calligrapha László, Ronkay & Witt, 2005

Meganola calligrapha László, Ronkay & Witt, 2005, *Entomofauna* **26**(11): 208. Type locality: N. Thailand, Prov. Chiang Mai, between Chiang Dao and Kariang. Holotype: male, in coll. MWM. (See Appendix 1)

Meganola zolotuhini László, Ronkay & Witt, 2010

Meganola zolotuhini László, Ronkay & Witt, 2010, *Esperiana* **15**: 47, pl. 7, figs 4-5; gen. fig. 43. Type-locality: North Thailand, Prov. Chiang Mai, 1600 m, between Fang and Nor Lae, 99°06'E, 20°02'N. Holotype: male, in coll. MWM. (See Appendix 5)

The *ruficostata* species-group

(Colour fig. 18)

Diagnosis. Externally very diverse group, the diagnostic shared features are found in the male genitalia (text fig. 34). The typical characters are the slight ventral dilatation of the valva, the long, narrow, stick-like, apically rounded, distally dentate harpe and the long, thin aedeagus with the vesica without cornuti.



Text fig. 34: male genitalia of *M. ruficostata*

The configuration of the female genitalia (text fig. 35) is very diverse in this species group, without remarkable common character.



Text fig. 35: female genitalia of *M. ruficostata*

Species content.

Meganola ruficostata (Hampson, 1896)

Selca ruficostata Hampson, 1896, *Fauna of British India, Moths* 4: 507.

Type-locality: Bhutan. Holotype: female, in coll. BMNH.

Type material examined: Holotype female, red ring type label, “Bhutan. 95-37. 26.V.95”, with handwriting: Selca ruficostata type female Hmpsn”, slide No. BM Arctiidae 1652 (coll. BMNH).

Additional material examined: 1 female, “Nepal, Kaski distr. Pokhara vic. Begnas Lake 84°05'E, 29°09'N, 11.X.1994 leg. Csorba & Ronkay”, slide No. LGN 603 (coll. MWM); 2 males, “N. Thailand, Chiang Mai Prov., between Chiang Dao and Kariang, 900 m, 98°48'E, 19°25'N, 26.X.2002 leg. B. Herczig & G. Ronkay”, slide Nos LGN 773, LGN 774 (coll. HNHM).

Meganola cuneifera (Walker, 1862)

Melia cuneifera Walker, 1862, *Journal of the Proceedings of the Linnean Society of London (Zoology)* **6**: 127. Type-locality: Borneo, Sarawak. Holotype: male, in coll. UM Oxford.

Type material examined: Holotype, male “Sar”, with handwriting: “Walker type male *Amelia cuneifera* 32-378”, slide No. 669-1973 (coll. Hope Dept. Oxford).

Additional material examined: 2 males, “Sued-Vietnam Bao Loc (Sek. Wald) Rung Cat Tien, 1500 m (11°32'N 107°48'E) 10-20.12.1992 leg. Sinajev & Simonov”, slide Nos LGN 602, LGN 164 (coll. MWM).

Meganola brechlini László, Ronkay & Ronkay, 2014

Meganola brechlini László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement* **2**: 41-42, pl. 10, fig. 8; gen. fig. 35. Type-locality: China, Shaanxi, Tapaishan Mts, Tsinling Mt, Houzhenzi. Holotype: male, in coll. MWM. (See Appendix 8)

Meganola shimekii (Inoue, 1970)

Roeselia shimekii Inoue, 1970, *Bulletin of the Japan Entomological Academy* **6**: 5, figs 15-17, 37, 46. Type-locality: Japan, Tokushima Pref., Tokushima City, Kuramoto. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring holotype label, “Tokusima-C. Kuramoto VII.25.1963 Coll. Y. Nagai”, slide No. BM Arctiidae 4390; Paratype, male, “Tokusima-C. Kuramoto IX.5.1963 Coll. Y. Nagai”, slide No. 3365 (Inoue) (coll. BMNH).

Additional material examined: 1 female, “Primorye, 20 km S Slavyanki, Ryazanovka 23.08.1986, leg. V.V. Dubatolov”, slide No. LGN 293 (coll. MWM).

Meganola albiscripta László, Ronkay & Witt, 2005

Meganola albiscripta László, Ronkay & Witt, 2005, *Entomofauna* **26**(11): 210, figs 1, 19, 24. Type-locality: Northern Vietnam, Fan-si-pan Mts, Sa Pa, 2400 m. Holotype: male, in coll. MWM. (See Appendix 1)

Meganola mikabo (Inoue, 1970)

Roeselia mikabo Inoue, 1970, *Bulletin of the Japan Entomological Academy* **6**: 4, pl. 1, fig. 2. Type-locality: Japan, Gumma Pref., Mikaboyama. Holotype: female, in coll. BMNH.

Type material examined: Holotype female, red ring holotype label, “Mikaboyama 750 m, Gumma 17. Aug. 1969 H. Inoue leg.”; Paratype, female, “Mikaboyama Gumma Pref. 21.VIII.1969 Y. Saito”, slide No. 3368 (Inoue) (coll. BMNH).

Additional material examined: 1 female, “Korea, Prov. Gang-von district On-dzong, Kum-gang san, near Hotel Go-song, 250 m No. 325 7. August 1975 leg. J. Papp et A. Vojnits”, slide No LGN 1451; 1 male, “Korea, Prov. Gang-von district On-dzong, Kum-gang san, near Hotel Go-song, 250 m No. 322 6. August 1975 leg. J. Papp et A. Vojnits”, slide No LGN 1450; 1 male, “Lungtan bei Nanking Prov. Kiangsu, China 6.6.1933 H. Höne”, slide No. LGN 530 (coll. MWM).

The *cenwanga* species-group

(Colour fig. 19)

Diagnosis. The single species belonging to this species-group, *M. cenwanga*, is characterised by a number of unusual features in both the external appearance and the male genital structure. The forewing has very broad blackish basal and medial areas bordered by the evenly arcuate postmedial line and followed by the whitish-grey terminal area. In the male genitalia (text fig. 36), the diagnostic characters are the rather long, medially arched and apically dilated, broadly rounded harpe and the small but characteristic cornuti field of vesica consisting of very short, triangular cornuti.



Text fig. 36: male genitalia of *M. cenwanga*

Species content.

Meganola cenwanga Hu, László, Ronkay & Wang, 2013

Meganola cenwanga Hu, László, Ronkay & Wang, 2013, *Zootaxa* **3608** (7): 597, figs 9-10. Type-locality: China, Guangxi, Cenwanglaoshan. Holotype: male, in coll. SCAU. (See Appendix 9)

The *mediofascia* species-group

(Colour fig. 20)

Diagnosis. The single member of the species-group is rather similar externally to *M. flexuosa*, but due to the significant differences in the configuration of the male genitalia these two species belong to two distinct species groups. The characters distinguishing the *mediofascia* species-group are the elliptical, spoon-shaped apical plate of the uncus (this structure is unique within *Meganola*), and the slight basal dilatation of the valva; the narrow and long aedeagus has no apical process, and the vesica is unarmed (text fig. 37).



Text fig. 37: male genitalia of *M. medifascia*

Species content.

Meganola medifascia (Inoue, 1958)

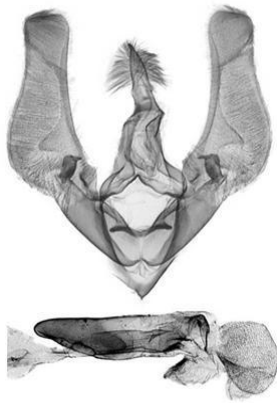
Celama medifascia Inoue, 1958, *Kontyu*, **26**: 236, pl. 2, figs 3, 8. Type-locality: Japan, Yamanashi Pref., Yashajin Pass. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring holotype label, “Yashejin Pass Yamanashi 26-29 July 1955 H. Inoue”; Paratype, male “Karuizawa 8.7.52 P. Savolainen”, slide No. 3346 (Inoue); Paratype, male, “Yashejin Pass Yamanashi 26-29 July 1955 H. Inoue”, slide No. BM Arctiidae 672 (coll. BMNH).

The *manoboides* species-group

(Colour fig. 21)

Diagnosis. A monobasic group, represented by a single taxon. Its external appearance is characterised by the whitish-grey forewing ground ornamented medially with semicircular blackish costal patch. The distinctive characters of the male genitalia (text fig. 38) are the broadly sclerotized costal margin of valva extending into the entire apical section, the triangular medial plate projecting towards the ventral margin of valva, the conspicuous, bent apical carinal process, and the fine scobination of the vesica.



Text fig. 38: male genitalia of *M. manoboides*

The diagnostic features of the female genitalia (text fig. 39) are the very short ductus bursae, the single, small, thorn-like signum bursae and the characteristically elongated corpus bursae.



Text fig. 39: female genitalia of *M. manoboides*

Species content.

Meganola manoboides Holloway, 2003

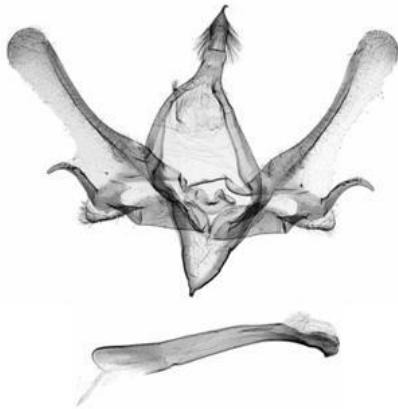
Meganola manoboides Holloway, 2003, *The Moths of Borneo* **18**: 29, pl. 1, figs 26, 40. Type-locality: Borneo, Sarawak, Gunong Mulu NP, Mulu, 1000 m. Holotype: male, in BMNH.

Type material examined: Holotype male, red ring holotype label, “Sarawak: Gunong Mulu Nat. Park R.G.S. Exped. 1977-8 J.D. Holloway et al. B.M.

1978-206 Site 15. February Camp 2.5, Mulu 1000m. 413461 Lower l. montane f. MV-understorey.”, slide No. BM Noctuidae 17103; Paratype, female, “Sarawak: Gunong Mulu Nat. Park R.G.S. Exped. 1977-8 J.D. Holloway et al. B.M. 1978-206 Site 16. March Long Pala (Base) 70m. 324450 Alluv./second. for. MV-on batu-Canopy.”, slide No. BM Noctuidae 17775 (coll. BMNH).

The *strigivena* species-group
(Colour fig. 22)

Diagnosis. The external habitus of the species of the group is characterized by the conspicuous, double, zig-zagged postmedial line. The shared male genital characters (text fig. 40) are the presence of the short basal lobe and the medially tapered, elongate, apically dilated distal lobe of valva, the elongate, narrow, apically rounded harpe arising close to the base of valva, and the broad, long, V-shaped vinculum. The aedeagus is simple, rather narrow, medium-long with short apical process, while the armature of the vesica shows two types: the vesica lacks the cornuti in *M. strigivena* and *M. zezugmintia*, while is armed by a single, short but robust cornutus in *M. tetradon* and *M. zirkalmashka*.



Text fig. 40: male genitalia of *M. strigivena*

In the female genitalia (text fig. 41), *M. tetradon*, *M. zezugmintia* and *M. zirkalmashka* share the curious pike-like configuration of signum bursae, while *M. strigivena* has the general configuration of signum bursae of *Meganola* consisting of a pair of short crests.



Text fig. 41: female genitalia of *M. strigivena*

Species content.

Meganola strigivena (Hampson, 1894)

Selca strigivena Hampson, 1894, *Fauna of British India, Moths* 2: 147. Type-locality: [India] Sikkim. Holotype: male, in coll. BMNH.

Type material examined : Holotype male, red ring type label, “Sikkim, Interior. Möller.” With handwriting : “Roeselia sp nova not in coll Moore”, “Callinola strigivena Hmpsn type male”, slide No. LGN 715 (coll. BMNH).

Additional material examined: 1 male, “Nepal, 3160 m, 6 km SW of Kalinchok Peak 6.VIII.1995 86°00’E 27°23’N leg. M. Hreblay & T. Csovari”, slide No. LGN 142; 1 female, “Nepal, 3000 m, 4 km SW of Kalinchok Peak 7.VIII.1995 86°01’E 27°24’N leg. M. Hreblay & T. Csovari”, slide No. LGN 141 (coll. MWM).

Meganola tetrodon (de Joannis, 1928)

Nola tetrodon de Joannis, 1928, *Bulletin de la Société Entomologique de France* 97: 250. Type-locality: [N Vietnam] Tonkin, Hoang su phi. Holotype: male, in MNHN Paris.

Synonymy

Meganola yakovlevi László, Ronkay & Witt, 2010, *Esperiana* 15: 44, pl. 6, fig. 16; gen. fig. 41. Type-locality: North Thailand, Prov. Chiang Mai, Mt. Doi Phahompok, 16 km NW of Fang, 2000 m. Holotype: male, in coll. MWM. (See Appendix 5, for synonymization Appendix 12)

Type material examined: Holotype male, “Hoang Su Phi Tonkin”, with handwriting: “Nola tetrodon Joann. type”, “Nola tetrodon Joan. Ann. Soc. Ent. Fr., 1928, 97. p. 250 H.T. (P. Viette X. 52)” (coll. MNHNP).

Additional material examined: 1 female, “Vietnam, Prov. Lao-cai Sa-Pa, 1650 m, lieux herb. second. á la lumière, 24.IX.1963, T. Pócs”, slide No. LGN 1409 ; 1 male, Thailand, Changwat Chiang Mai, Mt. Doi Phahompok, 20 km NW of Fang, 2100m, 25.I.2004 leg. A. Szabó, slide No. LGN 1725 (coll. MWM).

Meganola zegzugmintá László, Ronkay & Ronkay, 2014

Meganola zegzugmintá László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 42-43, pl. 11, figs 5-6; gen. figs 39-40. Type-locality: Nepal, Annapurna Himal, Poon Hill. Holotype: male, in coll. MWM. (See Appendix 8)

Meganola zirkalmashka László, Ronkay & Ronkay, 2014

Meganola zirkalmashka László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 43, pl. 11, figs 7-8; gen. figs 41-42. Type-locality: Nepal, Koshi, Taplejung Area. Holotype: male, in coll. MWM. (See Appendix 8)

The *strigula* species-group

(Colour fig. 23)

Diagnosis. The group comprises two closely related, externally rather featureless species, their proper separation often requires the examination of the genitalia. The common characters of the species-group in the male genitalia (text fig. 42) are as follows: conspicuously short uncus, relatively short valva with short basal lobe, distal lobe with parallel margins, harpe well developed, long, thin, slightly arched, apically pointed, vinculum narrow, but long, especially in *M. strigula*. The long and thin aedeagus bears a rather characteristic, strongly sclerotized apical part with a single well developed lateral tooth.



Text fig. 42: male genitalia of *M. strigula*

The configuration of the female genitalia (text fig. 43) shows the general *Meganola* characters without unique feature.



Text fig. 43: female genitalia of *M. strigula*

Species content.

Meganola strigula ([Denis & Schiffermüller], 1775)

Noctua strigula [Denis & Schiffermüller], 1775, *Ankündigung eines Systematischen Werkes von den Schmetterlinge der Wiener Gegend* **1775**: 69.

Type locality: [Austria] Vienna region. Type(s) destroyed.

Synonymy

Phalaena aspersalis de Villers, 1789, *Caroli Linnaei Entomologica, Faunae Suecicae Descriptionibus Aucta*, **2**: 451. Type-locality: Europe;

Pyralis strigulalis Hübner, 1796, *Sammlung Europäischer Schmetterlinge* **6**: pl. 3, fig. 16. Type-locality: Europe, an unjustified emendation of *Noctua strigula* [Denis & Schiffermüller], 1775;

Phalaena corticosa Vallot, 1802, *Mémoires pour servir a l'Histoire de Insectes*, **1802**: 39. Type-locality: No locality given;

Pyralis monachalis Haworth, 1911, *Lepidoptera Britannica, sistens Digestionem novam Insectorum Lepidopterorum que in Magna Britannia Reperiuntur, Larvarum pabulo, Temporeque Pascendi; Expansione Alarum; Mensibusque Volandi; Synonymis Atque Locis Observationibusque Varris* **1**: 386. Type-locality: Great Britain. Syntypes;

Roeselia strigulana Hübner, [1825] 1816, *Verzeichniss bekannter Schmetterlinge*: 397. An unjustified emendation of *Noctua strigula* [Denis & Schiffermüller], 1775;

Nola lineolalis Eversmann, 1844, *Fauna Lepidopterologica Volgo-Uralensis Exhibens Lepidopterorum Species quas per Viginti quinque Annos in Provinciis Volgam Fluvium inter et Montes Uralenses sitis Observavit et Descripsit*, **1844**: 474. Type-locality: [Russia] Ural Mts.

Material examined: 1 male, „Makkoshotyka, Zempléni hgs. 1970 VI. 11. fénycsapda”, slide No. LGN 92; 1 male, Zempléni hg. Rostalló 1978. 7. 3. leg. Szabóky Cs.“, slide No. LGN 93; 1 female, „Sikfőkút, 1981 V. Leg. Varga Z.“, slide No. LGN 94; 1 female, „Kunfehértó, 1966 VII. 20. fénycsapda“, slide No. LGN 95 (coll. HNHM).

Meganola kolbi (Daniel, 1935)

Roeselia strigula ssp. *kolbi* Daniel, 1935, *Deutsche Entomologische Zeitschrift. Gesellschaft Iris zu Dresden* **49**: 33. Type-locality: Hungary, Somogy megye, Balatonszentgyörgy. Lectotype: male, in coll. MWM, designated by de Freina and Witt, 1984.

Synonymy

Roeselia pannonica Kovács, 1947, *Folia Entomologica Hungarica* (New Series) **2**: 67. Type-locality: Hungary. Syntypes: in coll. HNHM.

Type material examined: Lectotype male, “Hungaria Com. Somogy Balatonszentgyörgy 110 m, 16.-30. VII. 32. Daniel München”, with handwriting: “male type von Roes. strigula ssp. Kolbi Dan.”, slide No. 246 (Witt); Paralectotype female, “Hungaria Com. Somogy Balatonszentgyörgy 110 m, 5.-19. Juli 31. F. Daniel München”, with handwriting: “female type von Roes. strigula ssp. Kolbi Dan.” (coll. MWM).

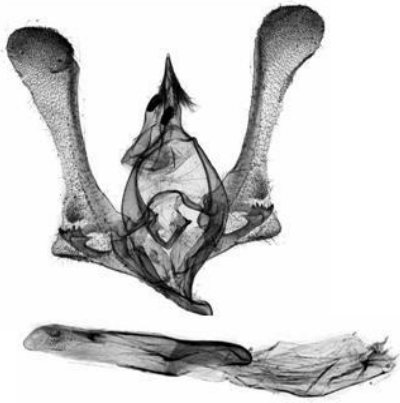
Syntype of *Roeselia pannonica*: female, “Pomáz (Kőhegy) Hungaria 1947 V. 17. Dr. Issekutz”, slide No. LGN 88 (coll. HNHM).

Additional material examined: 1 male, female, “Iran, prov. Fars 5 km S of Vazag 1970 m, 30.IV.2000 leg. Szabó & Hentschel”, slide Nos LGN 1394 (male), LGN 1395 (female) (coll. MWM); 1 female, “Bulgaria, Struma valley Kresna 1983 5. 9-14. leg. Herczig B.”, slide No. LGN 89; 1 male, “Pomáz 1947 V. 17. Dr. Kovács”, slide No. LGN 90; 1 male, “Budakeszi, 1953 V. 18. Dr. Kovács”, slide No. LGN 91 (coll. HNHM).

The *strigulosa* species-group

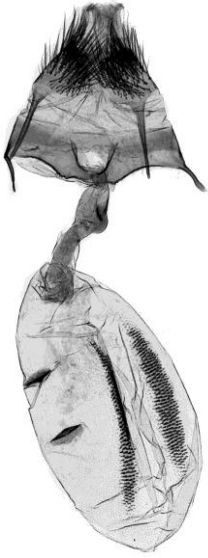
(Colour fig. 24)

Diagnosis. The members of the species-group are characterized by their conspicuous, dark forewing median area tapering towards ventral margin, bordered by the rather wavy antemedial and postmedial lines. In the male genitalia (text fig. 44), the valva has short basal and long, apically dilated distal lobe, short harpe with dentation on distal margin, rather broad, V-shaped vinculum, simple aedeagus without apical carinal process, with vesica lacking cornuti.



Text fig. 44: male genitalia of *M. strigulosa strigulosa*

The female genitalia (text fig. 45) have a pair of elongate scobinated plates on corpus bursae besides the pair of short triangular signa.



Text fig. 45: female genitalia of *M. strigulosa strigulosa*

Species content.

Meganola strigulosa strigulosa (Staudinger, 1877)

Nola strigulosa Staudinger, 1877, *Mémoires sur les Lépidoptères* **3**: 180, pl. 10, fig. 4. Type-locality: [Russia] [Far East] Vladivostok; Askold I. Syntypes: in coll. ZMHU.

Type material examined: Syntype male, labelled as “Origin”, “Askold Dörr”, with handwriting: “Roeselia (Nola) fumosa Butl. Hps.”, “Roeselia (Nola) strigulosa Stgr nec fumosa Btlr”, slide No. LGN 1370; Syntype female, “Origin” “ex coll 3/8 Staudinger”, slide No. LGN 1371 (coll. ZMHU).

Additional material examined: 1 male, “Korea, Prov. North Pyongan, Mt. Myohyang-san Hotel Myohyang-san, 13.07.1982 No. 783 leg. Dr. L. Forró & Dr. L. Ronkay”, slide No. LGN 1455 (coll. MWM).

Meganola strigulosa satoi (Inoue, 1970)

Roeselia satoi Inoue, 1970, *Bulletin of the Japan Entomological Academy* **6**: 4, pl. 1, figs 19-21, 34, 49. Type-locality: Japan, Niigata Pref., Nitsu City, Mt. Akiba. Holotype: male, in coll. Inoue.

Type material examined: Holotype male, red ring holotype label, “Mt. Akiba Niitsu-city 18 Aug. 1959 coll. R. Sato”, slide No. BM Arctiidae 4389; Paratype, female, “Mt. Akiba Niitsu-city 18 Aug. 1959 S. Sakurai”, slide No. 3478 (Inoue) (coll. BMNH).

Additional material examined: 1 female, “Honshu Japan, Bisawa, Tomakomai, Hokkaido, Japan, 27. July 1984 leg. Kinoshita, S.”, slide No. LGN 1452 (coll. MWM).

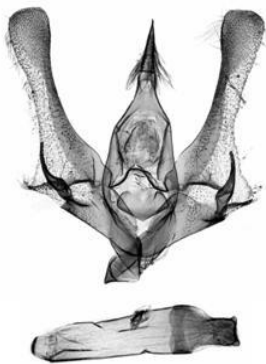
Meganola tsinlinga László, Ronkay & Ronkay, 2014

Meganola tsinlinga László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 39, pl. 10, fig. 7; gen. fig. 28. Type-locality: China, Shaanxi, Qinling Mts. Holotype: male, in coll. MWM. (See Appendix 8)

The *seima* species-group

(Colour fig. 25)

Diagnosis. Externally rather diverse group, the diagnostic characters of the male genitalia (text fig. 46) are the short, broadly rounded basal valval lobe, the long, acute harpe arising at ventral margin of sacculus, the short, simple aedeagus lacking apical carinal process, and the absence of cornuti on the vesica.



Text fig. 46: male genitalia of *M. seima*

Species content.

Meganola seima László, Ronkay & Ronkay, 2014

Meganola seima László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 44, pl. 12, fig. 1; gen. fig. 44. Type-locality: Cambodia, Prov. Mondolkiri, Seima. Holotype: male, in coll. MWM. (See Appendix 8)

Meganola pseudobasalactifera László, Ronkay & Ronkay, 2015

Meganola pseudobasalactifera László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 268. Type-locality: Indonesia, Sumatra. Holotype: male, in coll. HNHM. (See Appendix 12)

Meganola suisharyonensis (Strand, 1917)

Roeselia fumosa ab. *suisharyonensis* Strand, 1917, *Archiv für Naturgeschichte* **82A**(1): 130. Type-locality: Taiwan, Suisharyo. Two syntypes, in coll. DEI Müncheberg.

Type material examined: Syntype female, “Suisharyo Formosa H. Sauter, II.12”, with handwriting: “*Roeselia fumosa* Butl. Female (var. ?) Strand det. et descr.” (coll. DEI).

Additional material examined: 1 male, “Taiwan, Prov. Taipei Taipingshan N.R. 1300 m, 12.VII.1997, leg. B. Herczig & Y.Y. Lien”, slide No. LGN 795 (coll. MWM).

Meganola parki Sung-Hwan Oh, 1991

Meganola parki Sung-Hwan Oh, 1991, *Systematics of the family Nolidae (Lepidoptera) in Korea*: 69, figs 25, 27, 88, 118. Type-locality: Korea (South), Prov. Gyeonggi, Gwangneung. Holotype: male, in coll. Kangwon National University, Chuncheon.

Material examined: 1 male, “West Tien-mu-shan Prov. Chekiang 31.7.1932. H. Höne” (coll. ZFMK).

The *flexuosa* species-group

(Colour fig. 26)

Diagnosis. The external appearance of the members of this species-group is conspicuously diverse; their close relationship is indicated by the features of the male genitalia (text fig. 47). The group characters are the narrow but relatively long basal lobe of valva (especially in *M. flexuosa*), the robust, finger-like, distally dentate harpe, the medium-long, thin aedeagus, and the single cornutus of the vesica. The female genitalia are rather diverse within the species-group, displaying no characteristic feature.



Text fig. 47: male genitalia of *M. flexuosa*

Species content.

Meganola flexuosa (Poujade, 1886)

Nola flexuosa Poujade, 1886, *Bulletin de la Société Entomologique de France* 1886: 27, pl. 18, fig. 26. Type-locality: [China] [Sechuan] Tibet, Moupin. Holotype: female, in coll. MNHN Paris.

Material examined: 1 female, “China/Guangxi Dayao Shan, Jingxiu 100 km SE of Liuzhou 23°45’N, 109°45’E 1200 m, 15-30.III.2005 leg. Siniaev & his team”, slide No. LGN 1411; 1 female, “China, Yunnan 5 km N Hutiaoxia 220 km N Dali 2200 , 23-27.IV.1998 ex coll. Dr. R. Brechlin”, slide No. LGN 1404; 1 male, 1 female, “Nepal, Tanahoun distr. Bimalnager village, 530 m 11-12.IV.1995, leg. Gy.M. László & G. Ronkay”, slide No. LGN 239 (male), LGN 116 (female); 1 male, Nepal, Annapurna Himal 2 km S Bichowk, 1400 m, 83°48’E, 28°20’N, 10.IV.1995 leg. Gy.M. László & G. Ronkay”, slide No. LGN 113; 1 male, “Taiwan, Prov. Taoyuan, Ming Chyr Forest Recreation Area, 1160 m, 08.05.1997 leg.: Gy.M. László & G. László”, slide No. LGN 1387; 1 female, “Taiwan, Prov. Ilan, 1200 m, Ming Chyr Forest Recreation Area, 4-5.VI.1997 leg. B. Herczig & L- Ronkay”, slide No. LGN 1388; 1 male, “North Thailand Prov. Chiang Mai, 1600 m, between Fabg and Nor Lae 99°06’E, 20°02’N, 28.10.2002 leg. B. Herczig et G. Ronkay”, slide No. LGN 1131; 1 female, “Thailand Changwat Chiang Mai 20 km NW of Mae Ai 1650 m, 7.I.1999 leg. A. Szabó & Z. Czere”, slide No. LGN 1015 (coll. MWM).

Meganola nanlinga Hu, László, Ronkay & Wang, 2013

Meganola nanlinga Hu, László, Ronkay & Wang, 2013, *Zootaxa* **3608** (7): 596, figs 5-8. Type-locality: China, Guangdong, Nanling. Holotype: male, in coll. SCAU. (See Appendix 9)

Meganola bryophilalis bryophilalis (Staudinger, 1887)

Nola bryophilalis Staudinger, 1877, *Mémoires sur les Lépidoptères* **3**: 181, pl. 10, fig. 5. Type-locality: [Russia] [Far East] Askold [Island], Raddefka. Syntypes: four males, in coll. ZMHU.

Synonymy

Roeselia basifascia Inoue, 1958, *Kontyu* **26**: 235, fig. 2, 7. Type-locality: Japan, Hokkaido, Kushiro, Shibechea. Holotype: male, in coll. BMNH.

Type material examined: Syntype female, labelled as “Origin”, “Raddefskaja Chr.”, with handwriting: *Roeselia bryophilalis* Stgr. Hps.”, slide No. LGN 1374; Syntype male, labelled as “Origin”, “Askold Dörr. 83”, slide No. LGN 1373; Syntype male, labelled as “Origin” without locality data (coll. ZMHU).

Holotype of *Roeselia basifascia*: male, red ring holotype label, “Shibechea Kushiro 12.VII.1956 K. Ijima”; Paratype, male, “Shibechea Kushiro 28.VII.1957 K. Ijima”, slide No. 3386 (Inoue) (coll. BMNH).

Additional material examined: 1 female, “Taiwan, Prov. Nantou, 5 km SW of Tayüling, 2900 m, 15.III.1996, 121°17'E, 24°09'N, leg. Tibor Csöväri & Pál Stéger”, slide No. LGN 1437 (coll. MWM); 1 male, “Lungtan bei Nanking Prov. Kiangsu, China 9.9.1933. H. Höne.” (coll. ZFMK).

Meganola bryophilalis hondoensis (Inoue, 1970)

Roeselia basifascia ssp. *hondoensis* Inoue, 1970, *Bulletin of the Japan Entomological Academy* **6**: 6, pl. 1, figs 9-12. Type-locality: Japan, Tokushima Pref., Tokushima City, Kuramoto. Holotype: male, in coll. BMNH.

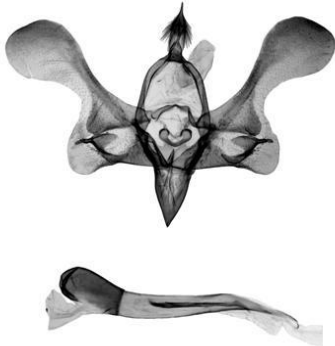
Type material examined: Holotype male, red ring holotype label, “Tokusima-C. Kuramoto VII.15. 1963 Coll. Y. Nagai”, with handwriting: “*Roeselia bifasciata hondoensis* Inoue 1970”; Paratype female, “Takefu Fukui Pref. 18.V.1963 H. Fukuda”, slide No. 3362 (Inoue) (coll. BMNH).

The *scripta* species-group

(Colour fig. 27)

Diagnosis. Externally very conspicuous species, having bright silvery forewing ground colour, with fine blackish drawings, the two subspecies are differentiated based on the conspicuously larger size and more sharply defined wingpattern of *M. s. csoevarii* comparing with the nominate form. The male genitalia (text fig. 48) is characterized by the relatively long and broad basal and apically conspicuously dilated distal lobe of valva, the short,

thin, apically rounded harpe arising from a rounded plate in the inner part of valva, in addition the relatively short aedeagus with vesica armed with a very long, thin cornutus.



Text fig. 48: male genitalia of *M. scripta scripta*

In the female genitalia (text fig. 49) the unical character of the species group is the conspicuously long, finger-like lateral protuberation of ductus bursae.



Text fig. 49: female genitalia of *M. scripta scripta*

Species content.

Meganola scripta scripta (Moore, 1888)

Roeselia scripta Moore, 1888, *Proceedings of the Zoological Society London* **1888**: 393. Type-locality: [Pakistan] Kangra. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring type label, “Kangra J.H. Hocking 83.-26.”, with handwriting: “Roeselia scripta male type, Moore”, slide No. BM Arctiidae 1844 (coll. BMNH).

Additional material examined: 1 male, “Pakistan, Kashmir, Himalaya Mts, 30 km N Muree near Nathia Gali, Ayubia 2600 m, 25-27.VI.1998 leg. Gy. Fábíán & B. Herczig”, slide No. LGN 86; 1 female, “Pakistan, Kashmir, Himalaya Mts, 30 km N Muree near Nathia Gali, Ayubia village 2600 m, 23.V.1998 leg. Gy.M. László & G. Ronkay”, slide No. LGN 87; 1 male, N. Thailand Chiang Mai Prov. 4 km S of Kop Dong 99°03'E, 19°52'N, 1800 m, 11.XI.2002, leg. B. Herczig & G. Ronkay”, slide No. LGN 780 (coll. MWM).

Meganola scripta csoevarii László, Ronkay & Witt, 2007

Meganola scripta csoevarii László, Ronkay & Witt, 2007, *Entomofauna* **28**(2): 19, figs 3-4. Type-locality: China, Prov. Shaanxi, Daba Shan, 15 km S of Shou Man village, 1800 m. Holotype: male, in coll. MWM. (See Appendix 3)

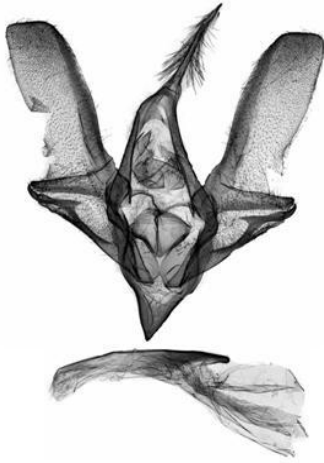
Meganola implicata László, Ronkay & Witt, 2007

Meganola implicata László, Ronkay & Witt, 2007, *Entomofauna* **28**(2): 19, figs 5-6. Type-locality: North Thailand, Prov. Mae Hong Son, 1250 m, between Pa Pae and Khun Sa, 98°39'E, 19°08'N. Holotype: male, in coll. MWM. (See Appendix 3)

The *fumosa* species-group

(Colour fig. 28)

Diagnosis. The single species of this group has conspicuously broad and short forewing, otherwise the wing pattern is rather variable. The distinctive features of the species-group are expressed in the configuration of the male genitalia: the valva has straight ventral and evenly arcuate dorsal margin, a uniquely shaped, narrow and finger-like, sclerotized plate extending from the base of the costal margin towards the tip of the short, triangular ventral extension of valva, and very long, acute, bill-like harpe located close to ventral margin of valva. The aedeagus is simple, short, without carinal (or other) process; the vesica is finely scobinate (text fig. 50).



Text fig. 50: male genitalia of *M. fumosa*

The unique feature of the female genitalia (text fig. 51) is the presence of a pair of wrinkled plates on the eighth sternite next to ostium bursae.



Text fig. 51: female genitalia of *M. fumosa*

Species content.

Meganola fumosa (Butler, 1879)

Nola fumosa Butler, 1879, *Entomologist's Monthly Magazine* **14**: 9, pl. 43, fig. 2. Type-locality: Japan, Yokohama. Holotype: male, in coll. BMNH.

Type material examined: Holotype male, red ring type label, “Yokohama Japan F.M. Jonas. 77-9”, with handwriting: “Nola fumosa Butler Type”, slide No. BM Arctiidae 1847 (coll. BMNH).

Additional material examined: 1 female, “Mien-shan (Prov. Shansi) Obere Höhe ca. 2000m 28.7.1937. H. Höne“, slide No. LGN 528; 1 female, West-Tien-Mu-Shan (1600m) Pz. Chekiang 22.9.1932. H. Höne”, slide No. LGN 529; 1 female, “Inagawa-cho Kawabe-gun, Hyogo 1981 VI. 10 leg. Kinoshita, S.”, slide No. LGN 1453; 1 male, “Jap. Yokohama Höne.”, slide No. LGN 1454 (coll. MWM).

The *nitidoides* species-group

(Colour fig. 29)

Diagnosis. The two species of the group are externally similar to *M. nitida*, but their strikingly different genital structure (text fig. 52) demonstrates that this similarity is only a result of morphological convergence. The main diagnostic characters of the species-group are the rather narrow uncus, the relatively broad valva with conspicuously long sacculus terminated in the small, tooth-like harpe, and the strongly sclerotized costal margin of valva having acute, narrow triangular plate at apex projecting towards ventral margin. In addition, the aedeagus is medium-long and rather thin, and the vesica is armed by large, hooked or stick-like cornutus.



Text fig. 52: male genitalia of *M. nitidoides*

In the female genitalia (text fig. 53) the ostium bursae is rather broad, the ductus bursae is thick and strongly sclerotized with short but conspicuous lateral protuberance.



Text fig. 53: female genitalia of *M. nitidoides*

Species content.

***Meganola nitidoides* Holloway, 2003**

Meganola nitidoides Holloway, 2003, *The Moths of Borneo* **18**: 27, pl. 1, figs 31, 32. Type-locality: Borneo, Sarawak, Gunong Mulu NP, Mulu, 1000 m. Holotype: male, in BMNH.

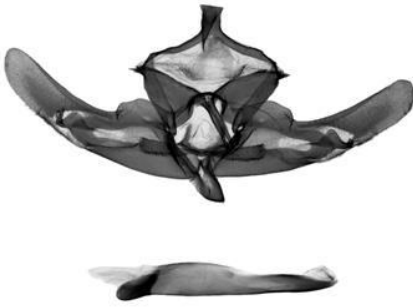
Type material examined: Holotype male, red ring holotype label, “Sarawak: Gunong Mulu Nat. Park R.G.S. Exped. 1977-8 J.D. Holloway et al. B.M. 1978-206 Site 14. February Camp 2.5, Mulu 1000m. 413461 Lower l. montane for. MV-canopy/understorey.”; Paratype female, “Retak L.P. 238 1465 metres Brunei 22.IV.1981 T.W. Harman”, slide No. BM Noctuidae 17653; Paratype male, “Sarawak: Gunong Mulu Nat. Park R.G.S. Exped. 1977-8 J.D. Holloway et al. B.M. 1978-206 Site 14. February Camp 2.5, Mulu 1000m. 413461 Lower l. montane for. MV-canopy/understorey.”, slide No. BM Noctuidae 17040 (coll. BMNH).

***Meganola simulata* László, Ronkay & Witt, 2007**

Meganola simulata László, Ronkay & Witt, 2007, *Entomofauna* **28**(14): 163, figs 12-13, 18, 22. Type-locality: Indonesia, W Sumatra, 7 km E Panti, 1000 m, 0°12'N, 100°01'E. Holotype: male, in coll. MWM. (See Appendix 4)

The *scriptoides* species-group
(Colour fig. 30)

Diagnosis. The single known species of this group has, despite the external similarity, neither closer relationship with *M. scripta*, nor other species of *Meganola*. The male genitalia (text fig. 54) are rather unique within the entire genus, having unusual configuration of valva, especially the triangular lateral lobes continuing in long, bar-like lateral processes of the tegumen are completely unknown in other *Meganola* species.



Text fig. 54: male genitalia of *M. scriptoides*

Surprisingly, the female genitalia (text fig. 55) show the basic configuration of *Meganola*.



Text fig. 55: female genitalia of *M. scriptoides*

Species content.

Meganola scriptoides Holloway, 2003

Meganola scriptoides Holloway, 2003, *The Moths of Borneo* **18**: 27, pl.1, figs 21, 41. Type-locality: Borneo, Sarawak, Gunong Mulu NP, Mulu, 1000 m. Holotype: male, in BMNH.

Type material examined: Holotype male, red ring holotype label, “Sarawak: Gunong Mulu Nat. Park R.G.S. Exped. 1977-8 J.D. Holloway et al. B.M. 1978-206 Site 15. February Camp 2.5, Mulu 1000m. 413461 Lower l. montane f. MV-understorey.”, slide No. BM Noctuidae 17033 (coll. BMNH).

Additional material examined: 1 male, 1 female, “N. Thailand, Prov. Nan, Doi PhuKa NP, between Pua and Bo Luang, 1350 m, 101°05'E, 19°12'N, 3.XI.2002 leg. B. Herczig & G. Ronkay”, slide Nos LGN 779 (male), LGN 778 (female) (coll. HNHM); 1 female, “Malaysia, Pahang State, Cameron Highlands, Tanah Rata No. 72. 21.March-2 April 1995 coll. G. Ronkay”, slide No. LGN 25 (coll. MWM).

4.1.2.2. Genera newly separated from *Meganola* s. l.

The new generic and species-group classification with descriptions of numerous new taxa in addition the new taxonomic combinations are published in the papers listed as Appendix 11 and 12. These publications besides delineations of new taxa, have clarified the validity and systematic position of such historic genera as *Ctenane*, *Selca* and *Proneca*. (See Appendix 11, 12).

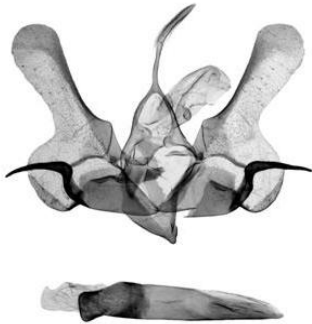
4.1.2.2.1. Genus *Hampsonola* László, Ronkay & Ronkay, 2015

Hampsonola László, Ronkay & Ronkay, 2015

Hampsonola László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 270. Type species: *Selca indistincta* Hampson, 1894, *Fauna of British India, Moths* **2**: 147. Type-locality: [India] [Nagaland] Naga Hills. Holotype: male, in coll. BMNH.

Diagnosis. The externally very diverse species of this new genus have been treated so far as *Meganola*, in spite of their conspicuously different genitalia structures of both sexes. The diagnostic features of the male genitalia (text fig. 56) are the characteristically bilobate valva, the much slenderer (or in some cases reduced) uncus, the more uniform, arched and apically acute

harpe and the simple, short or medium-long aedeagus with the vesica lacking cornuti; those of the female genitalia (text fig. 57) are the poorly sclerotized, usually simple, V-shaped ostium bursae and the much narrower, membranous ductus bursae (the female genitalia of *Meganola* have usually much broader, more strongly sclerotized ostium bursae and conspicuously thicker and more sclerotized ductus bursae).



Text fig. 56: male genitalia of *H. indistincta*

The genus *Hampsonola* displays closer relationship with the South African genus *Vandamia* van Son, 1933 due to the similar configuration of their (otherwise dissimilarly bilobate) valvae, but *Hampsonola* has much slenderer and generally longer uncus (with the exception of those taxa where the uncus is reduced) while the uncus of *Vandamia* is more robust, thicker and shorter. An additional difference between the two genera that the dorsal valval lobe of *Hampsonola* lacks hair tuft, while *Vandamia* has a rather dense hair tuft in the narrowest part of the dorsal lobe of valva.



Text fig. 57: female genitalia of *H. indistincta*

The *indistincta* species-group

(Colour fig. 31)

Diagnosis. The shared characters of the species belonging to this species-group are the rather slim, long and apically pointed uncus, without dense lateral hair coverage.

Species content.

Hampsonola indistincta (Hampson, 1894)

Selca indistincta Hampson, 1894, *Fauna of British India, Moths* 2: 147. Type-locality: [India] [Nagaland] Naga Hills. Holotype: male, in coll. BMNH. (For the new combination see Appendix 12)

Type material examined: Holotype male, “Naga Hills, 3000 ft., Sept.-Oct. 1989. W. Doherty.”, with handwriting: “*Noloides indistincta* Hmpsn. Type male”, slide No. BM Arctiidae 2325 (coll. BMNH).

Additional material examined: 1 male, 1 female, “Nepal, Annapurna Himal 1200m, 1 km N of Syange 84°25'E 28°24'N 07.VI.1996 leg. Hreblyay & Szabóky”, slide Nos LGN 184 (male), LGN 185 (female); 1 male, Vietnam, Lao Cai prov. Sa Pa district, Cat-Cat village, Frontier Vietnam Base Camp, 22°19'36,4"N, 103°49'46,1"E, 1250m, 4-8.VIII.1998, leg. A. Kun”, slide No. LGN 1448; 1 male, “Thailand, Prov. Mae Hong Son, 1250m, between Pa Pae and Khun Sa, 98°39'E, 19°08'N, 31.10.2002 leg. B. Herczig & G. Ronkay”, slide No. LGN 1079 (coll. MWM).

Hampsonola harutai (László, Ronkay & Ronkay, 2014)

Meganola harutai László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement* 2: 44, pl. 11, fig. 4; gen. fig. 43. Type-locality: Nepal, Annapurna Himal, Chitre. Holotype: female, in coll. MWM. (See Appendix 8, 12)

Hampsonola diehli László, Ronkay & Ronkay, 2015

Hampsonola diehli László, Ronkay & Ronkay, 2015, *Zootaxa* 4052(2): 271. Type-locality: Indonesia, Sumatra. Holotype: male, in coll. SMNK. (See Appendix 12)

Hampsonola basirufa (de Joannis, 1928)

Celama basirufa de Joannis, 1928, *Bulletin de la Société Entomologique de France* 97: 249. Type-locality: [N Vietnam] Tonkin. Syntypes: two females, in coll. MNHN Paris. (For the new combination see Appendix 12)

Type material examined: Syntype female, “Hoang Su Phi Tonkin”, with handwriting: “Celama basirufa Joann. Type female”, “Celame basirufa Joan. Ann. Soc. Ent. Fr., 1928, 97. p. 249 L.T. (P. Viette X. 52)” (coll. MNHNP).

Additional material examined: 1 male, 1 female, „N-Vietnam, 16-1800m Mt. Fan-si-pan (West) Cha-pa, Sek. Wald (22°20'N 103°40'E) 10.6.-6.7.1994 Schintlmeister leg.”, slide Nos LGN 1420 (male), LGN 1402 (female) (coll. MWM).

Hampsonola subbasirufa László, Ronkay & Ronkay, 2015

Hampsonola subbasirufa László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 274. Type-locality: China, N. Yunnan, Li-kiang. Holotype: male, in coll. ZFMK. (See Appendix 12)

Hampsonola longshengensis (Hu, Han, László, Ronkay & Wang, 2014)

Meganola longshengensis Hu, Han, László, Ronkay & Wang, 2014, *Florida Entomologist* **97**(3): 1067, figs 9-10. Type-locality: China, Longsheng, Guangxi. Holotype: male, in coll. SCAU. (See Appendix 10, 12)

Hampsonola angustifasciata László, Ronkay & Ronkay, 2015

Hampsonola angustifasciata László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 274. Type-locality: China, N. Yunnan, Li-kiang. Holotype: male, in coll. ZFMK. (See Appendix 12)

Hampsonola stueningi László, Ronkay & Ronkay, 2015

Hampsonola stueningi László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 274. Type-locality: China, N. Yunnan, Li-kiang. Holotype: male, in coll. ZFMK. (See Appendix 12)

Hampsonola wilbarka (Hu, Han & Wang, 2013)

Meganola wilbarka Hu, Han & Wang, 2013, *Zootaxa* **3608**(7): 599, figs 11-14. Type locality: China, Longsheng, Guangxi. Holotype: male, in coll. SCAU. (See Appendix 9, 12)

Hampsonola hiranoi (Inoue, 1991)

Nola hiranoi Inoue, 1991, *Tyo to Ga* **42**(2): 66, figs 1g, 1h, 7, 8. Type-locality: Japan, Nagano pref., Ookuchizawa, Toyoshina. Holotype: male, in coll. BMNH. (For the new combination see Appendix 12)

Type material examined: Holotype male, red ring holotype label, „Ookuchizawa, Toyoshina Nagano pref. 25. VII. 1981 N. Hirano leg.”, slide No. 10302 (Inoue); Paratypes, 2 females, „Ookuchizawa, Toyoshina Nagano

pref. 25. VII. 1981 N. Hirano leg.”, slide Nos 9827, 9828 (Inoue) (coll. BMNH).

Hampsonola honeyi (László, Ronkay & Witt, 2010)

Meganola honeyi László, Ronkay & Witt, 2010, *Esperiana* **15**: 41, pl. 6, fig. 6; gen. fig. 38. Type-locality: North Thailand, Prov. Chiang Mai, 1800 m, 4 km S of Kop Dong, 99°03'E, 19°52'N. Holotype: male, in coll. HNHM. (See Appendix 5,12)

Hampsonola tarkabarka (László, Ronkay & Witt, 2010)

Meganola tarkabarka László, Ronkay & Witt, 2010, *Esperiana* **15**: 40, pl. 6, fig. 1; gen. fig. 34. Type-locality: Thailand, Prov. Nan, 25 km N of Bo Luang, 1150 m. Holotype: male, in coll. MWM. (See Appendix 5, 12)

Hampsonola micra László, Ronkay & Ronkay, 2015

Hampsonola micra László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 275. Type-locality: Indonesia, Sumatra. Holotype: male, in coll. HNHM. (See Appendix 12)

Hampsonola paramediana (Hu, Han, László, Ronkay & Wang, 2014)

Meganola paramediana Hu, Han, László, Ronkay & Wang, 2014, *Florida Entomologist* **97**(3): 1064, figs 1-2. Type-locality: China, Mt. Daming, Guangxi. Holotype: male, in coll. SCAU. (See Appendix 10, 12)

Hampsonola nankunensis (Hu, Han, László, Ronkay & Wang, 2014)

Meganola nankunensis Hu, Han, László, Ronkay & Wang, 2014, *Florida Entomologist* **97**(3): 1064-1066, figs 3-4. Type-locality: China, Mt. Nankun. Holotype: male, in coll. SCAU. (See Appendix 10, 12)

Hampsonola zillii (László, Ronkay & Ronkay, 2014)

Meganola zillii László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement* **2**: 45, pl. 12, figs 3-4; gen. figs 46-47. Type-locality: Vietnam, Bao Loc, Rung Cat Tien. Holotype: female, in coll. MWM. (See Appendix 8, 12)

Hampsonola semmiminta (László, Ronkay & Ronkay, 2014)

Meganola semmiminta László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement* **2**: 44, pl. 12, fig. 2; gen. fig. 45. Type-locality: Vietnam, Mt Fansi-pan, Sa Pa. Holotype: male, in coll. MWM. (See Appendix 8, 12)

The *semirufa* species-group
(Colour fig. 32)

Diagnosis. The uncus of the members of this species group is somewhat thicker than in the taxa of the *indistincta*-group, and apically rounded, laterally covered with dense hair tufts (text fig. 58).



Text fig. 58: male genitalia of *H. semirufa*

Species content.

Hampsonola semirufa (Hampson, 1894)

Pisara semirufa Hampson, 1894, *Fauna of British India, Moths* **2**: 146. Type-locality: [India] Sikkim. Holotype: female, in coll. BMNH. (For the new combination see Appendix 12)

Type material examined: Holotype female, red ring type label, with handwriting: „*Pisara semirufa* type female Hmpsn” no locality label on the specimen, but the locality is indicated in the drawer as „Sikkim”, slide No. LGN 717 (coll. BMNH).

Additional material examined: 1 male, „Vietnam, Prov. Lao-cai Sa-pa, 1650 m, lieux herbeuses second. á la lumière, 28.IX.1963, T. Pócs”, slide No. LGN 1415; 1 male, „N. Thailand, Prov. Chiang Mai, 1800 m, 4 km S of Kop Dong, 99°03'E, 19°52'N, 06.11.2002, leg. B. Herczig & G. Ronkay”, slide No. LGN 987 (coll. MWM); 1 female, „N.E. Burma Kambaiti, 7000 ft. 17.VI.1934. R. Malaise”, slide No. LGN 1997 (coll. BMNH).

Hampsonola latiscripta (László, Ronkay & Witt, 2005)

Meganola latiscripta László, Ronkay & Witt, 2005, *Entomofauna* **26**(11): 219. Type locality: Vietnam, Bach-Ma NP, 1200 m, 16°10'N, 107°54'E. Holotype: male, in coll. MWM. (See Appendix 1, 12)

Hampsonola galsworthyi (László, Ronkay & Witt, 2010)

Meganola galsworthyi László, Ronkay & Witt, 2010, *Esperiana* **15**: 41, pl. 6, fig. 5; gen. fig. 37. Type-locality: Thailand, Prov. Chiang Mai, 4 km SE of Pang Faen, 1100 m. Holotype: male, in coll. MWM. (See Appendix 5, 12)

Hampsonola hollowayi (László, Ronkay & Witt, 2010)

Meganola hollowayi László, Ronkay & Witt, 2010, *Esperiana* **15**: 40, pl. 6, fig. 2; gen. fig. 35. Type-locality: N. Thailand, Chiang Mai Prov., between Chiang Dao and Kariang, 900 m, 98°48'E, 19°25'N. Holotype: male, in coll. MWM. (See Appendix 5, 12)

Hampsonola mediana (László, Ronkay & Witt, 2010)

Meganola mediana László, Ronkay & Witt, 2010, *Esperiana* **15**: 40, pl. 6, figs 3-4; gen. fig. 36. Type-locality: Thailand, Prov. Chiang Mai, Mt. Doi Phahompok 16 km NW of Fang, 2000 m. Holotype: male, in coll. MWM. (See Appendix 5, 12)

Hampsonola gigantoides (Inoue, 1961)

Roeselia gigantoides Inoue, 1961, *Rikusuisha* **1961**: 682. Type-locality: Japan, Gumma Pref., Kumanotaira. Holotype: male, in coll. BMNH. (For the new combination see Appendix 12)

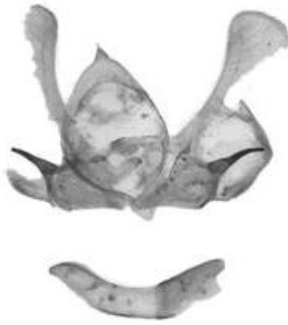
Type material examined: Holotype male, red ring holotype label, „Kumanotaira Gumma Pref. 27.VII.1959 H. Inoue” (coll. BMNH).

Additional material examined: 1 female, „Korea, Prov. Gang-von district On-dzong, Kum-gang san, near Hotel Go-song, 250 m, No. 319. 5. August 1975 leg. J. Papp et A. Vojnits”, slide No. LGN 1421; 1 male, Korea, Prov. North Pyongan, Mt. Myohyang-san Hotel Myohyang-san, 13.07.1982 No. 783 leg. Dr. L. Forró & Dr. L. Ronkay”, slide No. LGN 1705 (coll. MWM).

The *donglashanensis* species-group

(Colour fig. 33)

Diagnosis. The monobasic group is characterized by the very short, pen-tip-like uncus (text fig. 59).



Text fig. 59: male genitalia of *H. donglashanensis*

Species content.

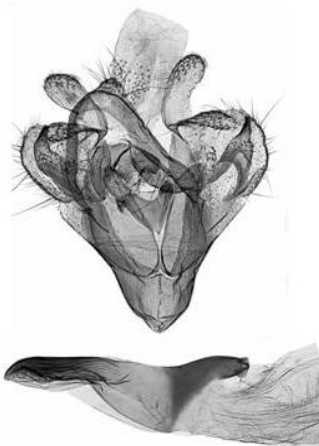
Hampsonola donglashanensis (Hu, Han, László, Ronkay & Wang, 2014)

Meganola donglashanensis Hu, Han, László, Ronkay & Wang, 2014, *Florida Entomologist* **97**(3): 1066-1067, figs 7-8. Type-locality: China, Donglashan, Sichuan. Holotype: male, in coll. SCAU. (See Appendix 10, 12)

The *basinigra* species-group

(Colour fig. 34)

Diagnosis. The distinctive characters of this species-group are the fully reduced uncus, the conspicuously short and narrow dorsal lobe of valva, the large, almost straight, robust harpe and the very short, proximally thick, distally tapering, strongly wrinkled aedeagus (text fig. 60).



Text fig. 60: male genitalia of *H. mimetica*

Species content.

Hampsonola basinigra (Pellinen, 2012)

Nola basinigra Pellinen, 2012, *Tinea* **22**(1): 64-66, Figs 2, 7, 8, 10. Type locality: Thailand, Lampang, Muban Phichai. Holotype: male, in coll. Pellinen. (For the new combination see Appendix 12)

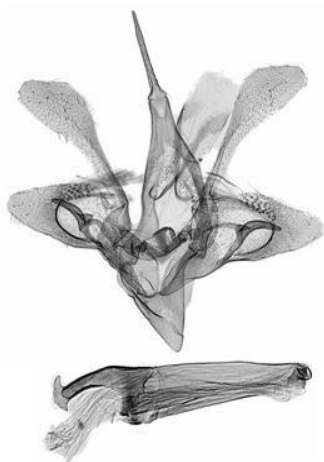
Hampsonola mimetica (László, Ronkay & Ronkay, 2014)

Meganola mimetica László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 45, pl. 12, fig. 5; gen. fig. 48. Type-locality: Nepal, Annapurna region, Naya Pul at Birethanti. Holotype: male, in coll. MWM. (See Appendix 8, 12)

The *sijthoffi* species-group

(Colour fig. 35)

Diagnosis. The species-group is characterized by the presence of easily removeable androconial hair scales on the ventral lobe of valva, the bases of the scales are well visible after having been removed, appearing as a conspicuous dentate plate. Another common feature of the group is the rather deep incision between the ventral and dorsal plates of the valva (text fig. 61).



Text fig. 61: male genitalia of *H. sijthoffi*

Species content.

Hampsonola sijthoffi (van Eecke, 1920)

Nola sijthoffi van Eecke, 1920, *Zoologische Mededeelingen Leiden* **5**: 119, fig. 7. Type-locality: Java, Preanger. Syntypes: three males and two females, in coll. RNH Leiden.

Synonymy

Nola sijthoffi var. *sumatrana* van Eecke, 1926, *Zoologische Mededeelingen Leiden* **9**: 48, pl. 2, fig. 18. Type-locality: [Indonesia] Sumatra, Fort de Kock. Syntypes: three females, in coll. RNH Leiden.

Roeselia monticola Roepke, 1948, *Tijdschrift voor Entomologie* **89**: 211, pl. 14, fig. 8. Type-locality: [Indonesia] Sumatra, Mt. Tanggamus. Holotype: female, in coll. RNH Leiden.

Type material examined: Syntypes 2 males, „W. Java Preanger, 5000 ft Anthony”, with handwriting: „Nola sijthoffi v. E. male Type”, slide No. JDH 2002:8; Syntype male, „W. Java Preanger, 5000 ft Sijthoff”, with handwriting: „Nola sijthoffi v. E. male Type” (coll. RMNH).

Syntype of *Nola sijthoffi sumatrana*: 1 female, „Fort de Kock (Sumatra) 920 m Jan. 1921 leg. E. Jacobson”, slide No. LGN 908 (coll. RMNH).

Holotype of *Roeselia monticola*: female, „Top Tengamoes 2100 mtr 11. July 1934 Z. Sumatra Toxopeus”, slide No. LGN 912 (coll. RMNH).

Additional material examined: 1 female, „Cambodia, Kampot Prov. Bokor N.P. Hill Station 1025m, 10°37'37"N, 104°01'33"E, 19-21.I.2006 leg. G. Csorba & G. Ronkay”, slide No. LGN 1219; 1 male, 1 female, „Java Mt. Pangrange, 30 km SE Bogor 1625m, (Primaerwald) 6°30'S 107°10'E 6.-20.2.1996 leg. Sinjaev & Afonin”, slide Nos LGN 571 (male), LGN 572 (female); 2 males, „Indonesia North Sumatra 20 km NE Sipirok Lake Marsabut 99°20'E 1°40'N 1350m, 8. Jan. 94 lg. Z. Weidenhoffer”, slide Nos LGN 573, LGN 574 (coll. MWM).

***Hamponola benescripta* (László, Ronkay & Witt, 2010)**

Meganola benescripta László, Ronkay & Witt, 2010, *Esperiana* **15**: 42, pl. 6, fig. 9; gen. fig. 340. Type-locality: Thailand, Chiang Mai Prov., between Chiang Dao and Kariang, 900 m, 98°48'E, 19°25'N. Holotype: male, in coll. HNHM. (See Appendix 5, 12)

***Hamponola csorbagabori* (László, Ronkay & Ronkay, 2014)**

Meganola csorbagabori László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement* **2**: 46, pl. 12, figs 7-8; gen. figs 49-50. Type-locality: Cambodia, Prov. Mondolkiri, Seima. Holotype: male, in coll. MWM. (See Appendix 5, 12)

***Hamponola sapatagka* (László, Ronkay & Ronkay, 2014)**

Meganola sapatagka László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 46, pl. 13, figs 1-2; gen. figs 51-52. Type-locality: Cambodia, Prov. Mondolkiri, Seima. Holotype: female, in coll. G. Ronkay. (See Appendix 8, 12)

Hampsonola geoffmartini (László, Ronkay & Witt, 2010)

Meganola geoffmartini László, Ronkay & Witt, 2010, *Esperiana 15*: 42, pl. 6, fig. 9; gen. fig. 40. Type-locality: North Thailand, Prov. Chiang Mai Prov., between Chiang Dao and Kariang, 900 m, 98°48'E, 19°25'N. Holotype: male, in coll. HNHM. (See Appendix 5, 12)

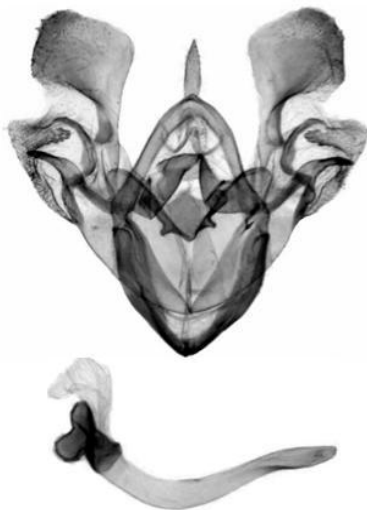
Hampsonola andamana (László, Ronkay & Ronkay, 2014)

Meganola andamana László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 47, pl. 13, figs 3-4; gen. fig. 53. Type-locality: India, Andaman Islands, Baratang Island. Holotype: male, in coll. MWM. (See Appendix 8, 12)

The *rufa* species-group

(Colour fig. 36)

Diagnosis. In this species-group the incision between the ventral and dorsal lobes of valva is shallow, the dorsal valval lobe is rather rounded, the androconial scales are placed on a triangular plate at the tip of ventral valval lobe, the harpe is very long, robust, the uncus is short and slim, without dense lateral hair tuft, the aedeagus is curved, having bifurcate coecum penis (text fig. 62).



Text fig. 62: male genitalia of *H. rufa*

Species content.

Hampsonola rufa (Hampson, 1900)

Celama rufa Hampson, 1900, *Catalogue of the Lepidoptera Phalaenae in the British Museum* 2: 8, pl. 18, fig. 2. Type-locality: [Sri Lanka] Ceylon, Pundaloya. Holotype: female, in coll. BMNH. (For the new combination see Appendix 12)

Type material examined: Holotype female, red ring type label, „Pundalucya. Ceylon Aug 1898 E.E. Green 99-150”, with handwriting: „Celama rufa type female Hmpsn”, slide No. LGN 846 (coll. BMNH).

Additional material examined: 1 male, „October, Maskeliya, Ceylon J.P.”, slide No. LGN 1301 (coll. BMNH).

Hampsonola kerala (László, Ronkay & Ronkay, 2014)

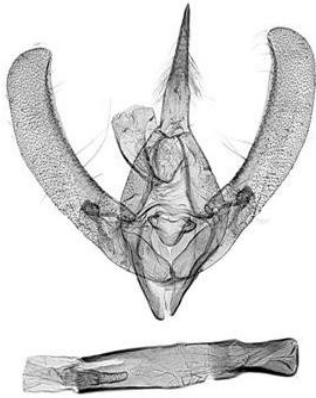
Meganola kerala László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement* 2: 47, pl. 12, fig. 6; gen. fig. 54. Type-locality: India, Kerala State, Munnar. Holotype: male, in coll. MWM. (See Appendix 8, 12)

4.1.2.2.2. Genus *Wittonola* László, Ronkay & Ronkay, 2015

Wittonola László, Ronkay & Ronkay, 2015
(Colour fig. 37)

Wittonola László, Ronkay & Ronkay, 2015, *Zootaxa* 4052(2): 278. Type species: *Wittonola latifasciata* László, Ronkay & Ronkay, 2015, *ibidem*, by original designation. Type-locality: Cambodia, Prov. Mondolkiri, Seima. Holotype: male, in coll. MWM.

Diagnosis. The external appearance of the type-species of the new genus is rather unique, resembling somewhat *Ctenane labuana* (Swinhoe, 1904) due to the presence of the similar, oblique dark forewing medial stripe and the postmedial line which is replaced by a wavy row of blackish dots. This similarity is only superficial, the genitalia of both sexes show the closer relationship of *Wittonola* not with *Ctenane* but with the *Meganola* lineage, according to the robust, long, evenly tapering, apically pointed uncus, the simple, relatively narrow, slightly arcuate valva with parallel margins and the harpe arising rather medially on the basal part of valva (text fig. 63), however the very short, button-like harpe is unknown in *Meganola*.



Text fig. 63: male genitalia of *W. latifasciata*

The configuration of the female genitalia (text fig. 64) displays further distinctive characters between *Wittonola* and *Meganola*. *Wittonola* has narrow, elongate papillae anales (this phenomenon is also known in certain species-groups of *Nola*) with extraordinarily long apophyses, these characters are unknown in *Meganola*. The single, thorn-like signum bursae of *Wittonola* resembles rather to a signum of the *Manoba* species than to any *Meganola* taxa.

The genus *Wittonola* is supposedly a collateral phyletic lineage sharing common characters partly with *Meganola* and *Manoba*, but cannot be placed into any of them. The above combination of the external and genital characters supports a delineation of a distinct genus.



Text fig. 64: female genitalia of *W. latifasciata*

Species content.

Wittonola latifasciata László, Ronkay & Ronkay, 2015

Wittonola latifasciata László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 279. Type-locality: Cambodia, Prov. Mondolkiri, Seima. Holotype: female, in coll. MWM. (See Appendix 12)

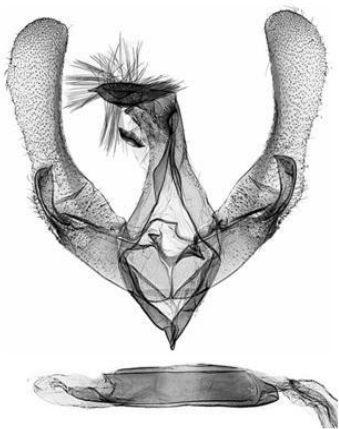
4.1.2.2.3. Genus *Ctenane* Swinhoe, 1905

Ctenane Swinhoe, 1905

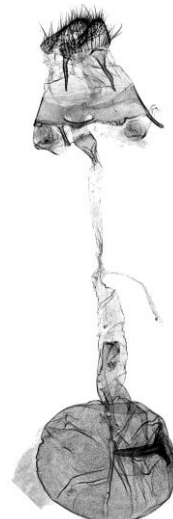
(Colour fig. 38)

Ctenane Swinhoe, 1905, *Annals and Magazine of Natural History* **9**(15): 497. Type-species: *Agrophila labuana* Swinhoe, 1904, by original designation by monotypy.

Characterization of the genus. *Ctenane* is one of the few historical genera which has been proved to represent a valid genus, however, it is closely related to *Nanola*, sharing the following common characters: the short, apically pointed uncus, the narrow-elongate valva and the ventro-marginal derivation of harpe. The main distinctive characters, compared with the rather diverse *Nanola*, are the long, apically dilated harpe (text fig. 65) and the rather unique configuration of the female genitalia having extraordinarily long, thin ductus bursae, sphaerical corpus bursae, and a single, long, finger-like signum (text fig. 66). The combination of such characters is unknown in *Nanola*.



Text fig. 65: male genitalia of *C. labuana*



Text fig. 66: female genitalia of *C. labuana*

The *labuana* species-group
(Colour fig. 38)

Diagnosis. The splitting of *Ctenane* into species-groups is based on the very characteristic habitus of the two distinct lineages: all the three species belonging to the *labuana* group have similar external characters expressed by the pale greyish forewing ground colour, the conspicuous, relatively broad, dark brownish or blackish stripe in the median area of forewing, and the fine but conspicuous row of blackish dots replacing the postmedial line. The general configuration of the genitalia of both sexes is very similar in the two species-groups (the *labuana* and the *trianguloquelinea* species-groups), sharing the main generic characters which are mentioned in detail under the diagnosis of the latter species-group.

Species content.

Ctenane labuana (Swinhoe, 1904)

Agrophila labuana Swinhoe, 1904, *Transactions of the Entomological Society of London*. **1904**: 139. Type-locality: Borneo, Labuan. Holotype: male, in coll. BMNH.

Synonymy

Ctenane dealbata Wileman & West, 1928, *Annals and Magazin of Natural History* (10) **2**: 221. Type-locality: Philippines, Luzon, Subprov. Benguet, Klondyke, 800 feet. Holotype: male, in coll. BMNH. (For the synonymization see Appendix 11)

Type material examined: Holotype male, red ring type label, „Labuan”, with handwriting: „Agrophila labuana Swinh type male”, „Ctenane labuana male Swinhoe type”, slide No. BM Noctuidae 14583 (coll. BMNH).

Holotype of *Ctenane dealbata*: male, red ring type label, „Klondyke, subprov. Benguet, Luzon, 800 ft. 22.III.1912 A.E. Wileman. Camp I”, with handwriting: „Ctenane dealbata Holotype male W & W” (coll. BMNH).

Additional material examined: 1 male, „Philippinen Insel Mindanao N Bukidnon Prov. Mt. Kitanglad, 1200m, 1-7. Februar 1996 leg. S. Gundorov”, slide No. LGN 1546; 2 males, „the Philippines SW Palawan 5 km E of Port Barton 10°22,581’N, 119°11,091’E, 110 m, 13-14. Dec. 2007, J.H. Lourens leg., slide No. LGN 1729, LGN 1730; 1 male, „the Philippines, E Luzon, Aurora, Sierra Madre, 15 km W of Dibulo 16°33,176’N, 122°13,386’E, 650m, 26-27. Sept. 2008 J.H. Lourens leg”, slide No LGN 1925; 2 males, „Philippinen Negros Isl. Mt. Canlaon I-IV. 1995 Sato”, slide Nos LGN 1926, LGN 1520; 1 male, „NE India Assam, Nambor Forest res. Garampani 100m, 26°30’N, 93°55’E 21-29.XI.97 leg. Siniaev & al.”, slide No. LGN 1607; 1

male, „China/Hainan Isl. Wuzhi-shan Mts 18°53'N, 109°43'E, 1500 m, 18-28.II.2003 leg. Siniaev & his team”, slide No. LGN 1608 (coll. MWM); 1 male, „Indonesia: West-Sumatra. Rimbo Panti, 250 m, 00°20'50"N/100°04'07"E, 24-25.II.2002 leg. K. Larsen & M. Fibiger”, slide No. LGN 1637; 1 female, „Indonesia: North-Sumatra. H-W. II. 28 km S P. Siantar, near Tigadoluk, 1050 m, 02°45'52"N/099°58'20"E, 4.III.2002 leg. K. Larsen & M. Fibiger”, slide No. LGN 1643 (coll. ZMUC); 1 female, „Sumatra Prapat HW 2, 8.6.85 Dr. Diehl leg”, slide No. LGN 2126 (coll. HNHM).

Ctenane michaeli László, Ronkay & Ronkay, 2015

Ctenane michaeli László, Ronkay & Ronkay, 2015, *Zootaxa* **4048**(2): 239. Type-locality: Indonesia, Sumatra. Holotype: male, in coll. ZMUC. (See Appendix 11)

The *trianguloquelinea* species-group

(Colour fig. 39)

Diagnosis. Externally very characteristic species with whitish forewings ornamented with conspicuous blackish, evenly arcuate postmedial line. The diagnostic features in the male genitalia (text fig. 67) are the narrow, medially tapered valva, the bifid or dentate harpe arising on the ventral margin of valva, being rather remote from the valval base, and the long, straight apical carinal process. The members of this species-group have a small, fine scobinate section of the vesica, this is the main differential genital character between the two species-groups of *Ctenane* as the species of the *labuana* group lack this scobination from the vesica.



Text fig. 67: male genitalia of *C. trianguloquelinea*

In the female genitalia (text fig. 68) the typical character is the single, long, finger-like process of signum bursae.



Text fig. 68: female genitalia of *C. trianguloquelinea*

Species content.

Ctenane trianguloquelinea (van Eecke, 1920)

Roeselia trianguloquelinea van Eecke, 1920, *Zoologische Mededeelingen Leiden* **5**: 45, fig. 11. Type-locality: [Indonesia] Java, Bajor. Holotype: female, in RNH Leiden. (For the new combination see Appendix 11)

Type material examined: Holotype female, „Java Bajor female”, slide No. LGN 859 (coll. RMNH).

Additional material examined: 1 male, „W. Thailand: 300m Chantaburi Dist., Khao Soi Dao NP 23.XI.1987”, slide No. LGN 1333 (coll. BMNH); 1 female, „Indonesia, North-Sumatra, Huta Padang (Asahan) River Silan, 48 km SE P. Siantar, near Sialangoman 220m, 13.II.2002 leg. M. Fibiger & K. Larsen”, slide No. LGN 1470 (coll. ZMUC); 1 male, „Fort de Kock (Sumatra) 920 m, Januari 1922 leg. E. Jacobson”, slide No. LGN 2306; 1 male, „N. Borneo, Sabah, 12 km NNE Ranau, staffquarters Poring Hot Springs, 550 m, 116°42'E, 6°03'N, 16. Dec. 1987 a. l., J. Huisman”, slide No LGN 2307 (coll. RMNH).

Ctenane yanquinghui (László, Ronkay & Ronkay, 2014)

Meganola yanquinghui László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 32, pl. 6, figs 1-2; gen. figs 1-2. Type-locality: Taiwan, Nantou County, Puli. Holotype: male, in coll. MWM. (See Appendix 8, 11)

4.1.2.2.4. Genus *Nanola* László, Ronkay & Witt, 2010

Nanola László, Ronkay & Witt, 2010

(Colour fig. 40)

Nanola László, Ronkay & Witt, 2010, *Esperiana 15*: 38. Type-species: *Nanola hluchyi* László, Ronkay & Witt, 2010, by original designation. (See Appendix 5)

Taxonomic notes. When the genus was described in the monographic work on the Nolinae fauna of Thailand (László et al. 2010), only the type species was considered as member of the genus, due to the restricted area of that study. The detailed analysis of the genital morphology of *Meganola* s.l. revealed the existence of a distinct lineage which was considered as *Meganola* by the former authors. As *Nanola hluchyi* is considered to belong to this lineage, the taxonomic content of *Nanola* has been extended remarkably, comprising more than a dozen of species placed into four species-groups, the *hluchyi*-, the *basalactifera*-, the *promelaena*-, and the *klondykei* species-groups.

Diagnosis. The main generic characters of this lineage are the relatively short, apically pointed uncus, the generally broadly opened, simple, rather narrow and apically rounded valva; the position of harpe arising from the ventral margin of the valval plate as a direct continuation of sacculus (text fig. 69), unlike in *Meganola*, where the harpe is located more medially on the valval plate (this feature displays closer connections between *Nanola* and *Manoba* Walker, 1864), and the usually short, relatively thick, simple aedeagus with or without cornuti in the vesica.



Text fig. 69: male genitalia of *N. hluchyi*

The configuration of the female genitalia (text fig. 70), at least in those taxa where the female is known, is also rather curious. The main diagnostic features are the extraordinarily thick, strongly sclerotized ductus bursae and the unusual (and very variable) shape of the signum (it is a large quadrangular plate in *N. liaoningensis*, a long, narrow, evenly arcuate transverse sclerotization in *N. franzdanieli*, horseshoe-shaped in *N. patkosigna* and a pair of scobinated rounded plates in *N. lesarbena*); or even fully reduced like in *N. hluchyi*). In spite of the rather large external diversity, all species are characterised by the above mentioned combination of genital characters, indicating their close relationship.



Text fig. 70: female genitalia of *N. hluchyi*

The *hluchyi* species-group

(Colour fig. 40)

Diagnosis. This species-group comprises externally very different species. The group characters of the male genitalia (text fig. 69) are as follows: valva simple, narrow, broadly opening, harpe arising at the ventral margin of valval plate as direct continuation of sacculus, aedeagus very short, relatively thick, with conspicuously short, broadly rounded coecum penis. The armature of the vesica is also variable, displaying specific differences. It appears as a single cornutus (*N. moluccana*), a fine scobination (*N. amboni*), or an extensive group of long, acute cornuti, but it may completely reduced like in *N. liaoningensis*, and *N. wangi*. In the female genitalia (text fig. 70), the main shared characters are as follows: generally broad, strongly sclerotized ostium bursae, extremely thick, strongly sclerotized ductus bursae and the unusual (otherwise very variable) shape of the signum

Species content.

Nanola hluchyi László, Ronkay & Witt, 2010

Nanola hluchyi László, Ronkay & Witt, 2010, *Esperiana* **15**: 38, pl. 5, figs 16-17; gen. fig. 33. Type-locality: Thailand, Prov. Nan, 5 km N of Bo Luang, 1000 m. Holotype: male, in coll. HNHM. (See Appendix 5)

Nanola rothschildi László, Ronkay & Ronkay, 2015

Nanola rothschildi László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 281. Type-locality: Philippines, Luzon. Holotype: female, in coll. BMNH. (See Appendix 12)

Nanola laevis (László, Ronkay & Ronkay, 2014)

Meganola laevis László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 34, pl. 7, fig. 5; gen. fig. 10. Type-locality: Vietnam, Fan-si-pan Mts, Sa Pa. Holotype: male, in coll. MWM. (See Appendix 8, 12)

Nanola franzdanieli (László, Ronkay & Ronkay, 2014)

Meganola franzdanieli László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 35, pl. 8, figs 1-2; gen. figs 13-14. Type-locality: [Vietnam], Tonking. Holotype: female, in coll. MWM. (See Appendix 8, 12)

Nanola liaoningensis (Han & Li, 2008)

Meganola liaoningensis Han & Li, 2008, *Tinea* **20** (3): 153-154, figs 1-3. Type-locality: China, Prov. Liaoning, Jianchang, Mt. Bailang. Holotype: male, in coll. HL Han. (For the new combination see Appendix 12)

Synonymy.

Meganola pekarskyi László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 36-37, pl. 8, figs 5-6; gen. figs 17-18. Type-locality: China, Prov. Kiangsu, Nanking, Lungtan. Holotype: male, in coll. ZFMK (See Appendix 8, 12)

Nanola lesarbena (László, Ronkay & Ronkay, 2014)

Meganola lesarbena László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 37, pl. 9, fig. 1; gen. fig. 19. Type-locality: Lower Burma. Holotype: female, in coll. MWM. (See Appendix 8, 12)

Nanola patkosigna (László, Ronkay & Ronkay, 2014)

Meganola patkosigna László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 34-35, pl. 7, figs 7-8; gen. figs 11-12. Type-locality: [Indonesia, Sulawesi], Lindoe Paloe. Holotype: male, in coll. BMNH. (See Appendix 8, 12)

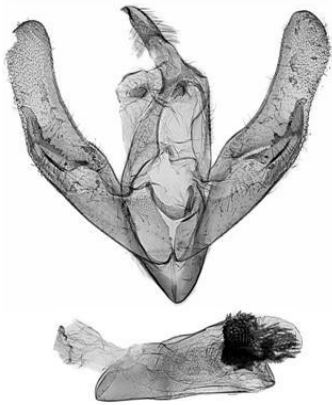
Nanola wangi (Hu, Han, László, Ronkay & Wang, 2014)

Meganola wangi Hu, Han, László, Ronkay & Wang, 2014, *Florida Entomologist* **97**(3): 1066, figs 5-6. Type-locality: China, Jianfengling, Hainan. Holotype: male, in coll. SCAU. (See Appendix 10, 12)

The *basalactifera* species-group

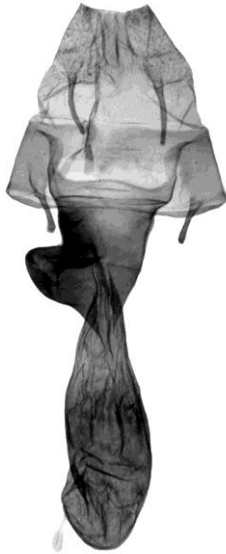
(Colour fig. 41)

Diagnosis. A rather characteristic species-group with two externally similar species being easily recognisable by the conspicuous red-brown basal area delineated by the thick, evenly arched, blackish medial line. In the male genitalia (text fig. 71), the valva is rather narrow, slightly arched, the harpe is conspicuously large, elongated, strongly dentate, erecting at the ventral margin of valva, being rather remote from the valval base. The aedeagus is very short, without apical carinal process, the vesica is with an extensive scobination and with a conical apical cornutus.



Text fig. 71: male genitalia of *N. basalactifera*

In the female genitalia (text fig. 72), the diagnostic characters of the species-group are the extraordinarily broad ostium bursae, the rather thick ductus bursae with very characteristic large, rounded lateral protuberation and the large, single, finger like signum bursae.



Text fig. 72: female genitalia of *N. basalactifera*

Species content.

Nanola basalactifera (Holloway, 2003)

Meganola basalactifera Holloway, 2003, *The Moths of Borneo* **18**: 29, pl. 1, figs 34, 35. Type-locality: Borneo, Sarawak, Gunong Mulu NP, Mulu, 160 m. Holotype: male, in BMNH.

Type material examined: Holotype male, red ring holotype label, “Sarawak: Gunong Mulu Nat. Park R.G.S. Exped. 1977-8 J.D. Holloway et al. B.M. 1978-206 Site 10. February Camp 1, Mulu 160m. 386470 Mixed dipt. For. Ac.-understorey.”, slide No. BM Noctuidae 17552 (coll. BMNH).

Additional material examined: 1 male, 1 female, “Khasis, Nov. 1896. Nat. Coll.”, slide Nos BM Noctuidae 17727 (male) 17728 (female) (coll. BMNH); 1 male, “No-Sumatra, 180 m Dolok Merangir 25.VIII.1969 legit Dr. E. Diehl”, slide No. LGN 2063 (coll. SMNK).

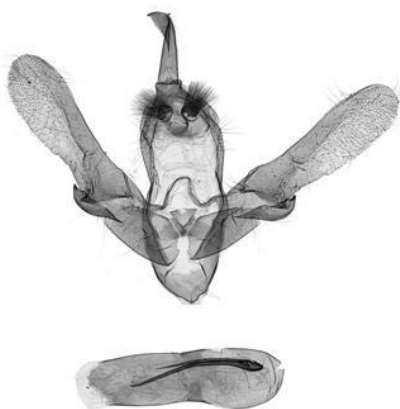
Nanola subbasalactifera (László, Ronkay & Ronkay, 2014)

Meganola subbasalactifera László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 33, pl. 6, figs 7-8; gen. figs 6-7. Type-locality: Philippines, Palawan, Mt. Salokot. Holotype: male, in coll. MWM. (See Appendix 8, 12)

The *promelaena* species-group

(Colour fig. 42)

Diagnosis. This species-group includes decorative species with conspicuously narrow forewing. The common male genital characters (text fig. 73) are the rather robust, slightly arched uncus, the broadly opening narrow valva, the harpe arising at and projecting over the ventral margin of valva, the short, relatively thick, proximally rounded aedeagus lacking coecum penis, and the vesica armed with a group of long, needle-like cornuti.



Text fig. 73: male genitalia of *N. promelaena*

Species content.

Nanola promelaena (Hampson, 1914)

Nola promelaena Hampson, 1914, *Catalogue of the Amatidae and Arctiidae (Nolinae and Lithosiinae) in the Collection of the British Museum* **1914**: 417, pl. 24, fig. 7. Type-locality: [Taiwan] Formosa, Kanshirei. Holotype: male, in coll. BMNH. (For the new combination see Appendix 12)

Type material examined: Holotype male, red ring holotype label, „Formosa. Kanshirei. 14.IV.1909. A.E. Wileman. 1913-180”, with handwriting: „Nola promelaena type male Hmpsn”, slide No. BM Noctuidae 16481 (coll. BMNH).

Additional material examined: 1 male, „Philippines, Balabac Dalawan Bay 4. Oct. 1961 Noona Dan Exp. 61-62”, slide No. LGN 2181 (coll. HNHM).

Nanola mirabilis (László, Ronkay & Ronkay, 2014)

Meganola mirabilis László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 34, pl. 7, figs 3-4; gen. fig. 9. Type-locality: [Indonesia], Java, Nongkodjadjar. Holotype: male, in coll. BMNH. (See Appendix 8, 12)

Nanola submelaena (László, Ronkay & Ronkay, 2014)

Meganola submelaena László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 33, pl. 7, figs 1-2; gen. fig. 8. Type-locality: [India] Khasis. Holotype: male, in coll. BMNH. (See Appendix 8, 12)

The *klondykei* species-group

(Colour fig. 43)

Diagnosis. A monobasic lineage with rather unique male genitalia (text fig. 74). The species may represent a distinct genus, its placement in *Nanola* is tentative. *Nanola klondykei* is similar externally to the species of the *C. trianguloquelinea* species-group, therefore it is treated here, though the configuration of the male genitalia is rather different from the other groups of *Nanola*. The distinctive characters of the male genitalia are the medially conspicuously laced valva, the very short, button-like harpe, the short and very thick aedeagus without apical carinal process, and the small but dense, rounded cornuti field of the vesica, consisting of small cornuti.



Text fig. 74: male genitalia of *N. klondykei*

Species content.

Nanola klondykei (László, Ronkay & Ronkay, 2014)

Meganola klondykei László, Ronkay & Ronkay, 2014, *Fibigeriana Supplement 2*: 32-33, pl. 6, fig. 5; gen. fig. 5. Type-locality: Philippines, Luzon, Prov. Benguet. Holotype: male, in coll. BMNH. (See Appendix 8, 12)

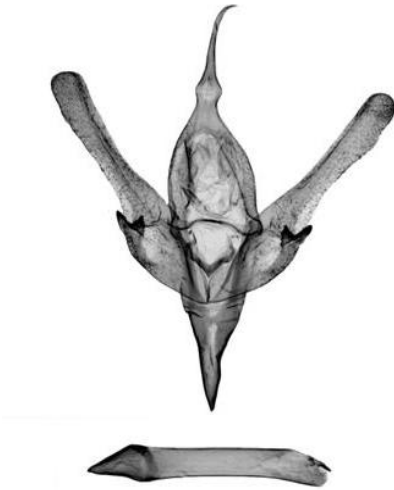
4.1.2.2.5. Genus *Fragilonola* László, Ronkay & Ronkay, 2015

Fragilonola László, Ronkay & Ronkay, 2015

(Colour fig. 44)

Fragilonola László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 288. Type species: '*Meganola*' *igorkostjuki* László, Ronkay & Witt, 2010, *Esperiana* **15**: 51, pl. 7, fig. 7; gen. fig. 45. Type-locality: North Thailand, Prov. Chiang Mai. Holotype: male in coll. MWM. (See Appendix 5, 12)

Diagnosis. The external appearance of the members of the new genus is rather conspicuous, all known taxa are colorful, tiny species with the wingspan 12-16 mm. The forewing of *Fragilonola* has broad orange-brown or pale brownish basal field, red-brown or greyish-brown terminal area and dark costal margin, the postmedial line is conspicuous, almost straight, oblique, broad, whitish. *Fragilonola* species are easily recognizable due to this combination of characters, while the configuration of their genitalia (text fig. 75) shows close relationship with *Nanola*, sharing the characteristic origin of harpe at the ventral margin of valva in both genera.



Text fig. 75: male genitalia of *F. igorkostjuki*

The main distinctive character between *Fragilonola* and *Nanola* is the considerably longer and narrower uncus and the fine but conspicuous, needle-like apical carinal process of the aedeagus of the former genus, while *Nanola* has generally shorter, more robust uncus and the carina of aedeagus lacks the apical process. In the female genitalia (text fig. 76), the differences are even larger as *Fragilonola* has longer, thinner, less sclerotized ductus bursae and double signum, while the species of *Nanola* have rather thick, swollen, strongly sclerotized ductus bursae and a single signum of very variable shape.



Text fig. 76: female genitalia of *F. igorkostjuki*

Species content.

Fragilonola igorkostjuki (László, Ronkay & Witt, 2010)

Meganola igorkostjuki László, Ronkay & Witt, 2010, *Esperiana* **15**: 51, pl. 7, fig. 7; gen. fig. 45. Type-locality: North Thailand, Prov. Chiang Mai, 1100 m, 4 km SE of Pang Faen. Holotype: male, in coll. MWM. (See Appendix 5, 12)

Fragilonola fragilis László, Ronkay & Ronkay, 2015

Fragilonola fragilis László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 289. Type-locality: Indonesia, Sumatra. Holotype: male, in coll. HNHM. (See Appendix 12)

Fragilonola parentela László, Ronkay & Ronkay, 2015

Fragilonola parentela László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 289. Type-locality: Philippines, N. Palawan. Holotype: male, in coll. HNHM. (See Appendix 12)

4.1.2.2.6. Genus *Maculonola* László, Ronkay & Ronkay, 2015

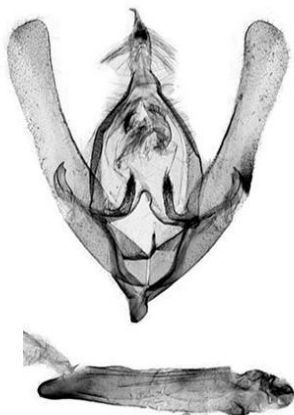
Maculonola László, Ronkay & Ronkay, 2015

(Colour fig. 45)

Maculonola László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 289. Type species: *Meganola apiensis* Holloway, 2003, *The Moths of Borneo* **18**: 30, pl. 1, fig. 20. Type-locality: Borneo, Sarawak, Gunong Mulu NP, Api, 900 m. Holotype: male, in BMNH.

Diagnosis. The habitus of the type-species of the new genus is unique within the whole tribe. The pale greyish-brown forewing lacks all but one crosslines except the oblique, straight, pale, but well visible brownish postmedial line. The other markings of the wing are conspicuous blackish patches on the basal and medial part of the costa, an oblique row of three dots in the terminal area and a larger patch at the middle of the ventral margin.

The basic configuration of the male genitalia (text fig. 77) indicates the closer relationship of *Maculonola* rather with *Nanola* than *Meganola* according to the rather narrow-elongate valval shape and the configuration of harpe. The main diagnostic character of the new genus is the presence of a rather curious, long, slim, strongly arcuate process of valva arising basally from the sclerotized costal margin, covered densely with short, fine, hair-like cornuti. This character is unknown in other species of the tribe, being eligible to delineate a distinct genus.



Text fig. 77: male genitalia of *M. apiensis*

Species content.

Maculonola apiensis (Holloway, 2003)

Meganola apiensis Holloway, 2003, *The Moths of Borneo* **18**: 30, pl. 1, fig. 20. Type-locality: Borneo, Sarawak, Gunong Mulu NP, Api, 900 m. Holotype: male, in BMNH. (For the new combination see Appendix 12)

Type material examined: Holotype male, red ring holotype label, “Sarawak: Gunong Mulu Nat. Park R.G.S. Exped. 1977-8 J.D. Holloway et al. B.M. 1978-206 Site 25. April G. Api, 900m. 427550 Lower montane forest MV and Act.”, slide No. BM Noctuidae 17043 (coll. BMNH).

Maculonola dolokmerangirensis László, Ronkay & Ronkay, 2015

Maculonola dolokmerangirensis László, Ronkay & Ronkay, 2015, *Zootaxa* **4052**(2): 294. Type-locality: Indonesia, Sumatra. Holotype: male, in coll. HNHM. (See Appendix 12)

4.1.2.2.7. Genus *Proneca* Swinhoe, 1890

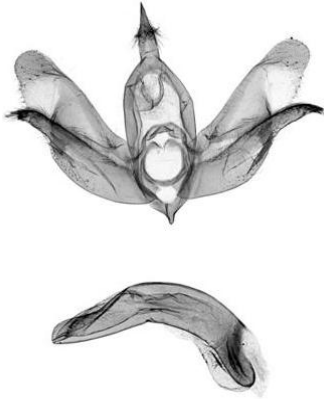
Proneca Swinhoe, 1890
(Colour fig. 46)

Proneca Swinhoe, 1890, *Transactions of the Entomological Society of London* **1890**: 193. Type-species: *Proneca fola* Swinhoe, 1890, by monotypy.

Characterization of the genus. *Proneca* is a rather unique historical genus of Nolini. It comprises two species having very characteristic red-brown forewings with striking, straight longitudinal yellowish stripe running across

the whole upper half of forewing; in addition, the elongate tornal area is pale brown.

The diagnostic features of the male genitalia (text fig. 78) are the relatively long, tapering uncus, the rather short tegumen, the apically spinose harpe covered by acute spines, the short, thin, strongly curved aedeagus, lacking apical carinal process and the unarmed vesica.



Text fig. 78: male genitalia of *P. fola*

The main distinctive characters of the female genitalia (text fig. 79) are the conspicuously long and strongly sclerotized eighth segment, the rather narrow, V-shaped ostium bursae, the fully membranous ductus bursae and the single, very long, needle-like signum bursae.



Text fig. 79: female genitalia of *P. fola*

Species content.

Proneca fola Swinhoe, 1890

Proneca fola Swinhoe, 1890, *Transactions of the Entomological Society of London* **1890**: 193. Type-locality: Burma, Thyetmyo. Lectotype, female, in coll. BMNH, designated (as type) by Hampson, 1900, *Catalogue of the Lepidoptera Phalaenae in the British Museum* **2**: 52.

Type material examined: Lectotype female, red ring type label, „Thyetyo 91-55”, „14/11/87”, with handwriting: „Proneca n.g. fola Swinhoe type”, slide No. LGN 719 (coll. BMNH).

Additional material examined: 1 male, „Colombo F.M. Mackwood April 1896 97-10.”, slide No. BM Noctuidae 14457 (coll. BMNH); 1 male, „Nord-Vietnam Mt. Fan-si-pan Cha Pa, 2400m NN (22°15'N 103°46'E) 8.-29.V.1993 leg. Sinajev & Simonov”, slide No. LGN 601; 1 female, „Sued-Vietnam Bao Loc (Sek. Wald) Rung Cat Tien, 1500m (11°32'N 107°48'E) 10.-20.12.1992 leg. Sinajev & Simonov”, slide No. LGN 504 (coll. MWM).

Proneca brunneostriata László, Ronkay & Ronkay, 2015

Proneca brunneostriata László, Ronkay & Ronkay, 2015, *Zootaxa* **4048**(2): 236. Type-locality: Indonesia, Sumatra. Holotype: male, in coll. MWM. (See Appendix 11)

4.1.2.2.8. Genus *Selca* Walker, 1866

Selca Walker, 1866

(Colour fig. 47)

Selca Walker, 1866, *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum* (**34**): 1218. Type-species: *Selca latifascialis* Walker, 1866, by subsequent designation by Hampson, 1900, *Catalogue of the Lepidoptera Phalaenae in the British Museum* **2**: 31.

Taxonomic notes. The genitalia of the very old type specimen has been strongly damaged, probably by a pest, thus the genital morphology of the primary type cannot be studied. At the same time, the unique external appearance of the species was eligible to identify recently collected specimens, and Holloway (2003) has approved *Selca* as a valid genus. I agree with the statement of Holloway, considering the unique configuration of the male genitalia (dissections were made on specimens collected during the last decades) as a firm base for the separation at generic level.

Characterization of the genus. The external appearance of the species matches well with the *Meganola* s.l. habitus, their separation at generic level is supported by the configuration of the male genitalia (text fig. 80). In *Selca*, the uncus has stem-like basal section and an apically pointed, sprout-like head; the tegumen is conspicuously short but rather broad; the valva is relatively short, medially tapered, the valval plate is armed by a rather complex lobe-system being unique in the whole tribe; the vinculum is very long and narrow; the aedeagus is very long and thin, slightly arched, apically with fine, but conspicuous dentation. The female is yet unknown.



Text fig. 80: male genitalia of *S. latifascialis*

Species content.

Selca latifascialis Walker, 1866

Selca latifascialis Walker, 1866, *List of the Specimens of Lepidopterous Insects in the Collection of the British Museum* **34**: 1219. Type-locality: Borneo, Sarawak. Holotype: male, in coll. UM Oxford.

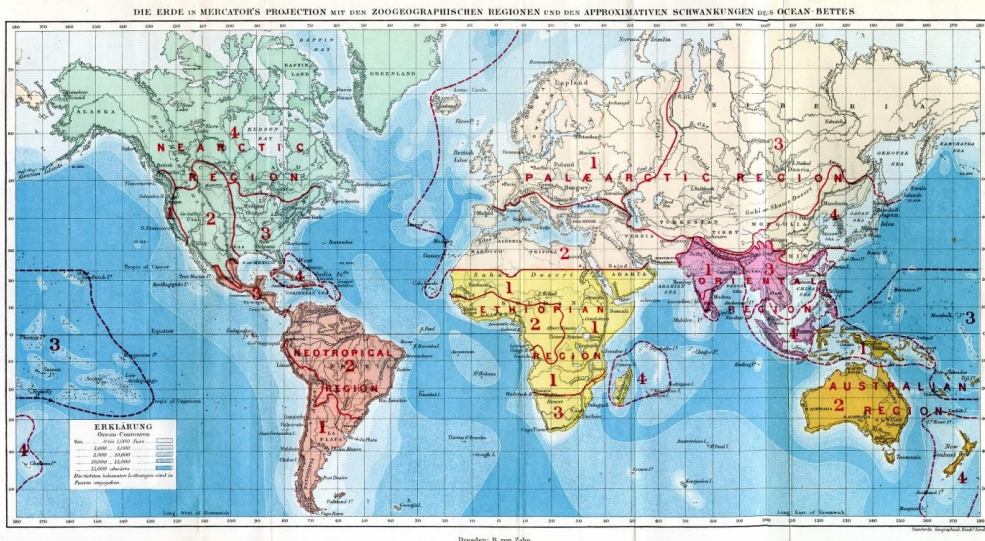
Type material examined: Holotype male, „Sar” (coll. UM Oxford).

Additional material examined: 2 males, „Indonesia: North Sumatra. Huta Padang (Asahan) River Silau. 48 km SE P. Siantar near Sialangoman 220m, 13.II.2002 leg. M. Fibiger & K. Larsen”, slide No LGN 1650 (coll. ZMUC); 1 male, „Sumatra Dairi 1000m, 28.12.80. Dr. Diehl”, slide No. LGN 2136 (coll. HNHM).

4.2. Zoogeographical overview

4.2.1. Overview of the geographical distribution of the *Meganola* s. l. generic complex in Eurasia

The zoogeographical division of the Earth was first established by Wallace (1876) and this classification has been remained in use still today. His classification outlined 6 regions (see Map 1) and this classic concept has been followed in my zoogeographical overview of the Eurasiatic taxa of the *Meganola* s. l. generic complex as well. Wallace's zoogeographical classification has recently been revised by a research group of the Copenhagen University (Holt et al. 2013). Although this new system follows the basic concept of Wallace, but splits the 6 original regions into 11 greater zoogeographical realms and 20 smaller regions (see Map 2). This new concept is based on the investigation of some 21000 amphibian, bird and mammal species and also shows the discordances among the different Vertebrate groups mainly due to the highly different geological age of their radiations. The main new findings in this publication concerning the Old World fauna are the establishment of some new zoogeographical regions in the transitional zones between Palaearctic and Afrotropical in addition Palaearctic and Oriental regions named as „Saharo-Arabian” and „Sino-Japanese” regions. In their paper Kreft and Jetz (2013) expressed a strong doubt about the sound foundation of this new concept. My aim is not to debate this new concept, as it can possibly be applied for the above mentioned vertebrate groups. The known distribution patterns of Lepidoptera do not match with this new concept which seems to be not well established for invertebrates, since their different groups, and especially the highly diverse large orders of insects show rather different evolutionary histories. Thus I cannot follow this recent subdivision in my present work.



Map 1. Wallace's (1876) classification of the zoogeographical zones of the world



Map 2. A new concept by Holt et al. 2013

The distribution chart (Appendix 13, Table 1) provides a simplified overview of the distribution of the species of *Meganola* and related genera. The distribution categories are set up according to the known species number of the given area, thus larger units are applied in the Palearctic region where the *Meganola* generic complex is moderately represented. In the Oriental zoogeographic region and in the transitional areas between Palearctic, Oriental and Australian regions smaller units have been established, especially in case of the geographically isolated larger islands, which treated separately in most cases due to the large number of endemisms. The distribution categories outlined in this present work cover the following geographical territories:

Palaeartic region:

West Palaeartic: Europe, Russia to W-Siberia, North Africa, Turkey, Middle East.

Central Asian: Iran, Afghanistan, Turkmenistan, Kazakhstan, Uzbekistan, Tajikistan, Kirghistan, NW Pakistan (Hindukush and Karakoram Mts), NW China.

E-Palaeartic: Russia from E-Siberia to Russian Far East, Japan, Korean Peninsula, N and NE China (Liaoning, Hebei, Shandong, Jiangsu).

Oriental region:

Himalaya: From the NW Himalayan chains in Pakistan via Nepal and Buthan to Arunachal Pradesh. Here we should note that different altitudinal levels of Himalaya show the presence and/or dominance of different faunal types (Palaeartic vs. Oriental). This situation is also highly complicated by the extreme species diversity of this orographically and historically complex area.

India: the whole Indian subcontinent South of the Himalaya including the Deccan Plateau, Nilgiris, Western and Eastern Ghats and Cardamom Hills in addition Bangladesh.

Sri Lanka: The island of Sri Lanka.

Indochina: India-Assam, Myanmar, Thailand, Laos, Vietnam, Cambodia, Malaysian Peninsula, Sichuan, Yunnan, Shaanxi, Chongqing, Guizhou, Guangxi, Hunan, Guangdong, Hubei, Shanxi, Henan, Anhui, Zhejiang, Fujian, Jiangxi and Hainan provinces of China.

Taiwan: The island of Taiwan.

Sumatra: The island of Sumatra.

Borneo: The island of Borneo.

Java: The islands of Java, Bali, Flores, Sumba and Timor.

Philippines: The islands of Luzon, Visayas and Mindanao.

Sulawesi: The island of Sulawesi. The fauna of this area shows strong transition into the New Guinean and Australian zones.

Remarks. The data are based on the examined material of the museum collections mentioned in details in the material and methods chapter. In addition the available published faunistical data were also used during completing the chart.

It is important to mention that the Nolini fauna eastwards from the Wallace Line is very poorly known, except certain areas of the Australian continent. A complete analysis of the zoogeography of the *Meganola* trunk would require the revisional work of the fauna of the islands east of the Wallace Line, New Guinea, Australia and New Zealand. This work has very recently been started with the study of the fauna of certain small areas and by the actually available material from New Guinea but as the results of these preliminary investigations are rather in embryo stage, thus not included into this survey.

4.2.1.1. The Eurasiatic distribution of the genera of the *Meganola* s. l. generic complex

A summary of the distribution of the generic complex is given below, the listed genera are considered as members of *Meganola* s. l. in the subsequent evaluation:

***Ctenane* Swinhoe, 1905:** Indochina, Taiwan, Sumatra, Borneo, Java, Philippines.

***Fragilonola* László, Ronkay & Ronkay, 2015:** Indochina, Sumatra, Philippines.

***Hampsonola* László, Ronkay & Ronkay, 2015:** East Palaearctic, Himalaya, India, Sri Lanka, Sumatra, Borneo, Java, Sulawesi.

***Maculonola* László, Ronkay & Ronkay, 2015:** Sumatra, Borneo.

***Meganola* Dyar, 1898:** widely distributed in the Palaearctic and Oriental region, with some species also in the Nearctic and Australian regions.

***Nanola* László, Ronkay & Witt, 2010:** Himalaya, Indochina, Taiwan, Sumatra, Borneo, Java, Sulawesi, Philippines.

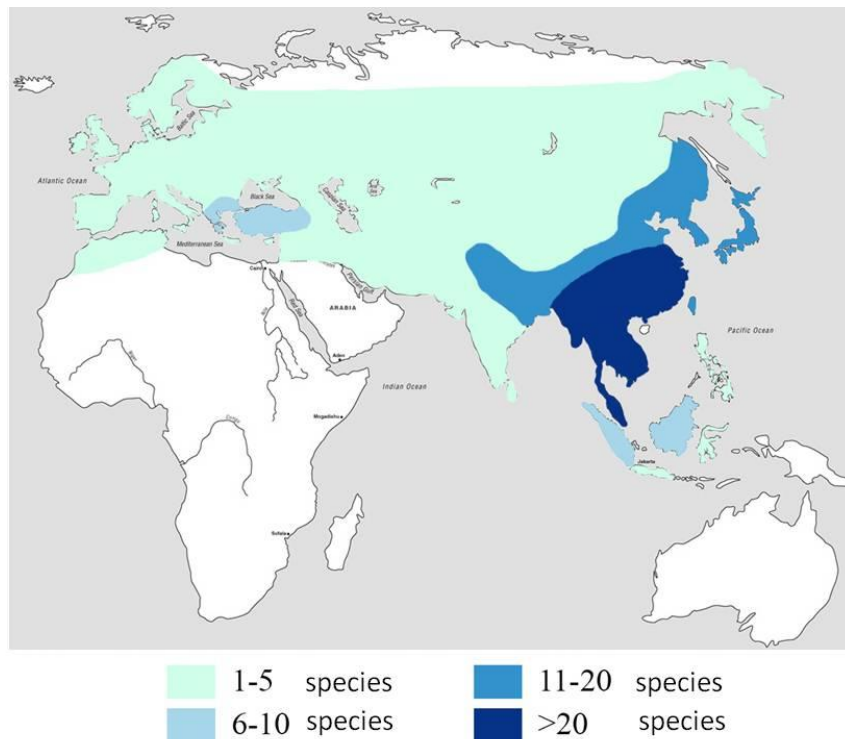
***Proneca* Swinhoe, 1890:** Sri Lanka, Indochina, Sumatra, Java.

***Selca* Walker, 1865:** Sumatra, Borneo.

***Wittonola* László, Ronkay & Ronkay, 2015:** Indochina, Sumatra.

Thanks to the division of the generic complex we received a clearer picture of the evolutionary history of the *Meganola* s.l. trunk. All the new

genera have been described exclusively from Indochina and the Indonesian Archipelago justifying the theory that this area is an important species diversity centrum of Nolinaceae. It is worth to note that the former, wide concept of *Meganola* sensu lato incorporated all phyletic lineages of the generic complex, obliterating the biogeographical features of most clades, making the entire „genus” a widespread Holarctic-Oriental group. A short overview on the distribution patterns of the actually distinguished genera clearly demonstrates that only three of them are really invaded the temperate Asiatic regions and only one of them, *Meganola* s. str., is widespread on the northern hemisphere, including the Nearctic (see Map 3).

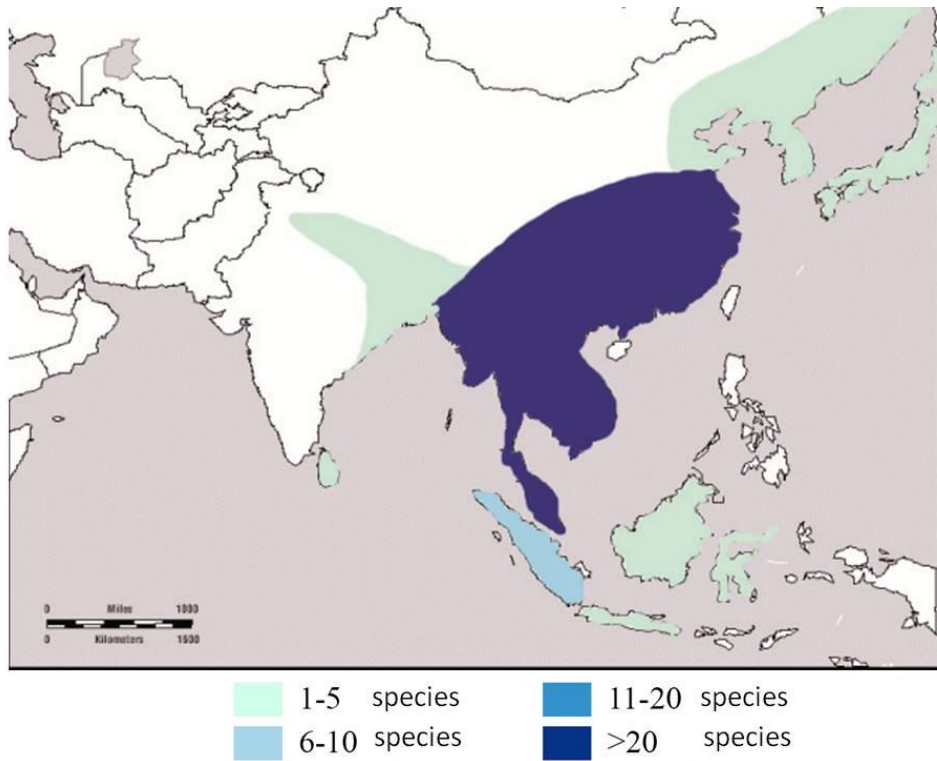


Map 3. Distribution of the genus *Meganola* s. str. in Eurasia

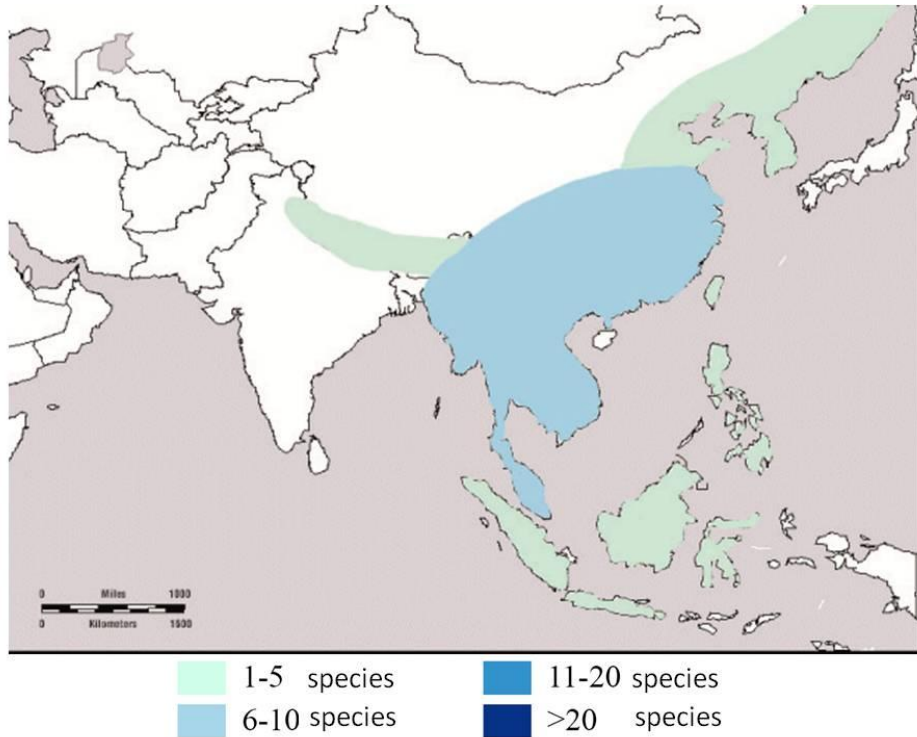
On the other hand, noteworthy, only two of the genera of the *Meganola* complex (*Maculonola* and *Selca* both known only from Borneo and Sumatra) are exclusively occurring in the Indonesian archipelago, all other branches (*Ctenane*, *Fragilonola*, *Proneca* and *Wittonola*) have species or species-groups which display stronger or weaker expansion towards the more temperate areas of continental Asia and inhabit the bordering areas between the Oriental and the Palearctic. These genera have secondary (or even later) centres of speciation and/or distribution in Indochina, the

Himalayan region, southern India and Sri Lanka, and the large islands of the archipelago (Taiwan, Hainan, the Northern Philippines, etc.).

Interestingly, only *Hampsonola*, *Meganola* and *Nanola* expanded further to the north along the Pacific region (although *Nanola* is represented by a single species occurring in the Pacific areas of China and Korea), producing a larger number of species in Japan, Korea and Manchuria; the taxa of *Hampsonola* and *Nanola* do not spread, however, further to the Nearctic and the western parts of the Palaearctic regions as several *Meganola* s. str. species do (see Maps 4-5).



Map 4. Distribution of the genus *Hampsonola*



Map 5. Distribution of the genus *Nanola*

In the Oriental zoogeographic region the highest species number (75 species) is recorded from Indochina, followed by the Sundaland (Sumatra + Borneo + Java = 46 species) and the Himalaya (21 species). The Palearctic zoogeographic region is much poorer in species, although in the Eastern part 23 species have been recorded, thanks mainly to the numerous endemic species in Japan, but the species number gradually decreases towards the Western Palearctic. In the Western Palearctic, only the genus *Meganola* s. str. is represented by only 6 species. As all known species of *Nolini* feeds exclusively on leaves of ligneous plants, the expected species number is supposedly shows strong correlation with the ligneous plant diversity of the given area. Thus it is not a surprise that the extremely species rich tropical-subtropical forests harbour the highest species number of *Nolini*, in addition give a high potential of speciation. Furthermore this zone was never concerned by the glaciation, while in Europe the extensive ice coverage during the glacial periods could have reduced drastically the species number.

The summarized data are figured in the following diagram:

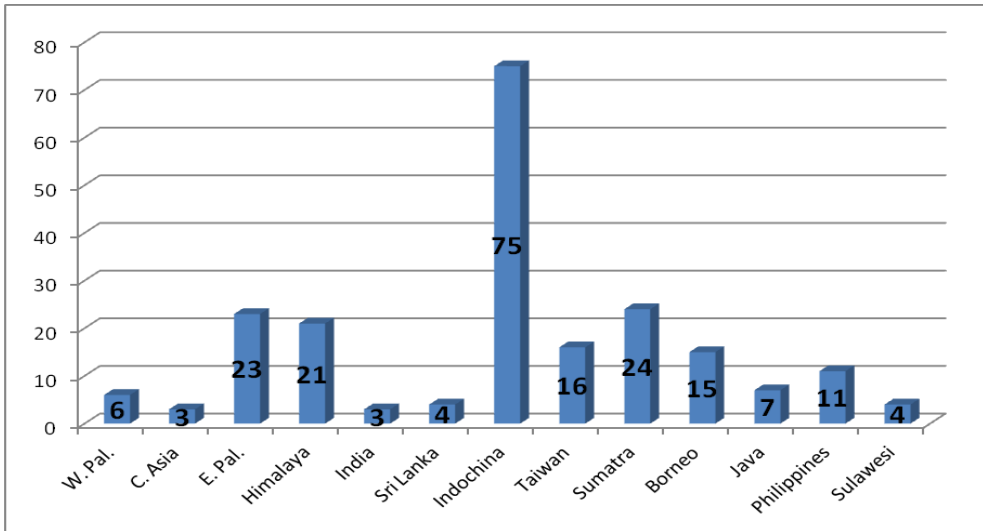


Diagram 1.: Geographic distribution of the species and subspecies number of *Meganola s. l.* in Eurasia

It is also worth to examine the distribution pattern of the genus *Meganola s. str.*:

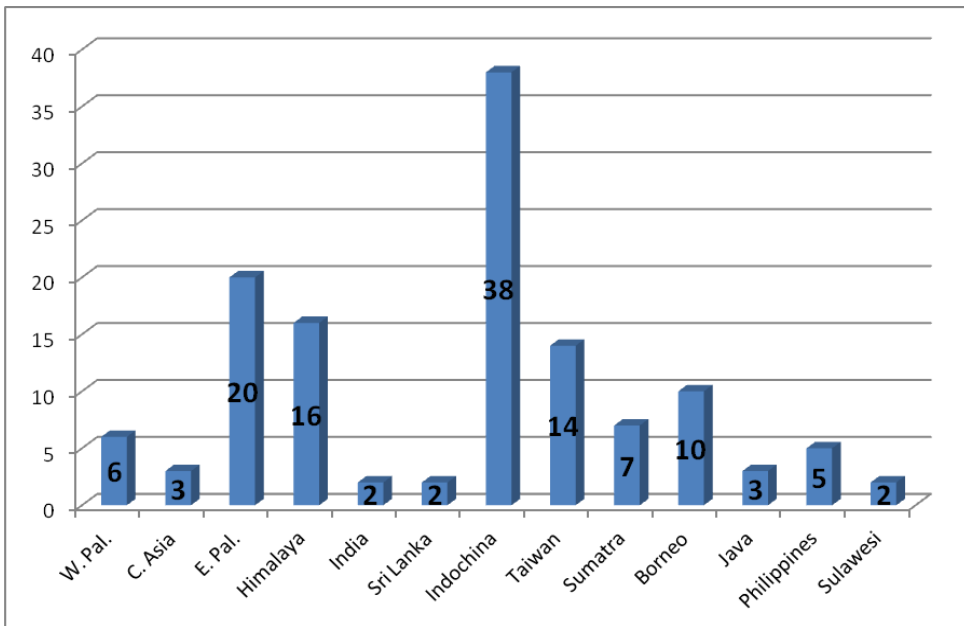


Diagram 2.: Geographic distribution of the species and subspecies number of *Meganola s. str.* in Eurasia

The picture is rather similar to that of *Meganola s. l.*, however the graph shows higher representation of *Meganola s. str.* in the Eastern part of Palearctic, the Himalayas and Taiwan. The generic hot spot of *Meganola* is

undoubtedly Indochina. At the same time it must be taken into consideration, that these distribution data are strongly depending on the exploratory status of a given area, thus, this picture can easily be changed when fieldwork activity will be intensified in the most neglected areas as e.g. Java, Sulawesi, the Philippines or Sri Lanka and Southern India.

Concerning the situation of the endemisms it is also too early to take any announcements as the stage of any endemic taxon can easily be changed by intensification of fieldwork resulting in new collected materials from certain understudied areas.

4.3. Systematic aspects of *Meganola* s. l. and related genera

The recent studies on the higher taxonomy of the Nolinae provided a clearer picture on the systematic relationships within the subfamily, but the unsolved polyphyly of the *Meganola* s. l. complex has obstructed the complete phylogenetic analysis. As a result of this present work a new generic concept has been established allowing to set up a – albeit rather subjective and preliminary – new generic grouping within Nolinae. To elucidate the detailed phylogeny of the Nolini tribe as well as the entire subfamily will require the involvement of substantially more morphotaxa to the molecular biological studies using DNA barcoding technics, which were unavailable for the author during the studies.

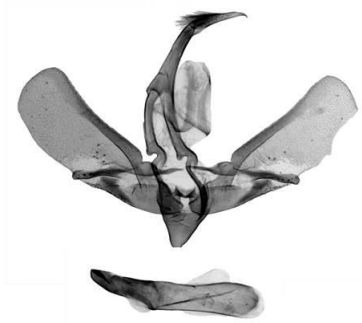
As a result of the morphological analysis of the relationships between the investigated genera the following characters have been taken into consideration as important group features: shape of valva, shape of harpe, position of harpe, presence of special characters (e.g. *socii*, *processi* on tegumen and costal margin of valva etc.).

Based on the evaluation of the above characters the following generic groups of the Roeseliidina subtribe are distinguished:

***Evonima* genus group**

Members of the group: *Evonima*, *Leucobaeta*

Main distinctive characters: broad, apically not tapering and more or less quadrangular valva, rather characteristic straight, long, narrow, apically rounded harpe laying across the valval plate. (Text fig. 81)



Text fig. 81. Male genitalia of *Evonima aperta*

***Barasa* genus group**

Members of the group: *Barasa*. The genus with numerous Australian taxa still requires a taxonomic revision to clarify its phylogeny.

Main distinctive characters: valva shape reminds to that of *Meganola* being usually relatively narrow, slightly arched, apically rounded, but valval plate is not flat, bearing a folded back ventral and a swollen costal section. Harpe is generally short, arched, narrow, erected rather basally. (Text fig. 82)



Text fig. 82. Male genitalia of *Barasa alopha*

***Casminola* genus group**

Members of the group: *Casminola*, *Melanographia*, *Hoenenola*, *Barnanola*

Main distinctive characters: conspicuously narrow, apically slightly tapering or dilated, rounded valva, characteristically long, narrow, arcuate, pointed harpe, erecting rather remote from the valval base (Text fig. 83)



Text fig. 83. Male genitalia of *Casminola chionobasis*

***Porcellanola* genus group**

Members of the group: *Porcellanola*, *Ezishnola*

Main distinctive characters: characteristically broad, rounded valva, well developed, acute harpe, erecting medially on the valval plate. In *Porcellanola* well-developed fultura inferior is present, reminding the juxta of certain Geometridae groups. (Text fig. 84)



Text fig. 84. Male genitalia of *Porcellanola minna*

***Meganola* genus group**

Members of the group: *Meganola*, *Calonola*, *Hampsonola*, *Cornuanola*, *Nanola*, *Ctenane*, *Fragilonola*, *Inouenola*, *Manoba*, *Wittonola*, *Varganola*, *Proneca*, *Suerkenola*, *Furanola*, *Toerpenola*, *Selca*, *Xenonola*, *Maculonola*.

Main distinctive characters: elongate, in most cases arcuate, apically generally tapering and rounded valva, well developed, rather variable harpe. Some more ancient representatives bears complicated structures on valval plate and displays curious configuration of uncus (e.g. *Selca*, see text fig. 80).

Supposedly ancient genera with no closer relationship with other lineages: *Leuconola*, *Membranola*, *Mokfanola*, *Hamishnola*, *Sarbena*.

It is important to repeat that the elucidation of the phylogenetic relationships within the subtribe, the *Meganola* generic complex (as well as between all supraspecific Nolini taxa) requires the application of the modern molecular biological methods. An extensive molecular taxonomic study can only be a topic of a new project with firm institutional background where the funds and the technical conditions are given to produce DNA barcodes in large (as good many hundreds) numbers. The publication of Zahir et al. (2013) pinpoints the urgent need of the synthetic assessment of the classic and the molecular taxonomic studies. The involvement of substantially more morphotaxa to the molecular biological studies would produce apparently more and more reliable results on the knowledge of the phylogeny of the entire subfamily.

5. Summary

As a direct antecedent of this present dissertation the taxonomic revision of the entire Nolini tribe has been started by our research team under my leadership in 2003. The investigations have been resulted in 20 publications during the last 12 year period. These publications are considered here as preliminary results of the present taxonomic survey of the *Meganola* s. l. generic complex. As a result of these works 23 new genera and 211 new species, in addition 3 new subspecies have been described. The newly proposed generic division provided a clearer picture on the taxonomy of the subtribe Roeseliidina and the collecting genus *Meganola* s. l.. The last step of this survey was the delineation of the generic rank lineages within *Meganola* s. l. (László et al 2015) which study has been resulted in descriptions of further 4 new genera and 13 new species. Due to the new generic delineations within *Meganola* (s. l.) 45 new combinations have been introduced. The genus *Meganola* s. str. has been defined based on genitalia characters. Furthermore, the largest genera of the complex (*Meganola*, *Hampsonola*, *Nanola*, *Ctenane*) have been subdivided into species groups based on diagnostic genitalia characters. This study resulted in the synonymization of two formerly erroneously described species, too. During the complete studies ca. 8000 specimens including all the detectable primary types of the

described species have been examined and some 2500 genitalia dissections have been made. This present work also provided an updated, annotated checklist of the valid species of the revised genera resulting in the following taxon numbers:

Meganola Dyar, 1898: 81 taxa (25 of them are own description).

Ctenane Swinhoe, 1905: 4 taxa (2 of them are own description).

Nanola László, Ronkay & Ronkay, 2010: 14 taxa (10 of them are own description).

Hampsonola László, Ronkay & Ronkay, 2015: 33 taxa (25 of them are own description).

Wittonola László, Ronkay & Ronkay, 2015: 1 taxon (own description).

Maculonola László, Ronkay & Ronkay, 2015: 2 taxa (1 of them is own description).

Fragilonola László, Ronkay & Ronkay, 2015: 3 taxa (all are own description).

Proneca Swinhoe, 1890: 2 taxa (1 of them is own description).

Selca Walker, 1865: 1 taxon.

As a summarized results of the 12 years duration of the taxonomic survey 27 new genera, 224 new species and 3 new subspecies have been described, in addition 64 new combinations have been introduced by me published together with my co-authors.

Based on the vast examined material and literature references a zoogeographical overview of the *Meganola* generic complex has also been introduced. As from the currently available collection materials and literature references revealed, the *Meganola* s. l. generic complex as well as *Meganola* s. str. show far the largest species diversity in the forested areas of Indochina, although these genera are also very species rich in the Himalayas, Taiwan and the Sundaland, while less diverse in the Palaeartic region, especially in the Western Palaeartic and Central Asia where only *Meganola* s. str. is occurring represented by only 9 species. Both the generic complex and *Meganola* s. str. are significantly more widespread in the Oriental zoogeographical region than in the Palaeartic. 108 species of the *Meganola* s. l. generic complex considered as Oriental and 32 as Palaeartic, while in case of *Meganola* s. str. 50 species are Oriental while 29 species are Palaeartic. The generic diversity of the *Meganola* s. l. complex is considerably larger in the tropical areas of the Oriental region, represented by 9 genera, while only 3 genera expanded northwards to the Palaearticum along the Pacific coast.

As a summary of the morphotaxonomical investigations, a generic grouping of the Roeseliidina subtribe as well as the generic division of the *Meganola* complex have been established, in addition the main lineages of all generic rank taxa of the complex are distinguished and unified into a common checklist. The complete elucidation of the phylogeny of the entire subfamily Nolinae will require the involvement of the whole world fauna as well as molecular biological tools into the further studies.

Összefoglalás

A teljes Nolini tribusz taxonómiai revízióját – mint jelen értekezés közvetlen előzményét – munkacsoportunk 2003-ban indította útjára irányításommal. A vizsgálatok az elmúlt 12 évben 20 tudományos publikációt eredményeztek. Ezek a közlemények a jelen *Meganola* s. l. generikus komplex taxonómiai vizsgálatát megalapozó előzetes eredményeknek tekinthetők. Ezen publikációkban 23 új génusz, 211 új faj és 3 új alfaj került leírásra. Az újonnan bevezetett generikus felosztás tisztább helyzetet teremtett a Roeseliidina szubtribusz taxonómiájában és a *Meganola* s. l. gyűjtő génusz esetében. Az utolsó szükséges lépés a kutatásban a *Meganola* s. l. komplexen belül a génusz rangú csoportok lehatárolása volt (László et al 2015), mely vizsgálat további 4 új génusz és 13 új faj leírását eredményezte. A *Meganola* (s. l.) új generikus felosztása következtében 45 új kombináció került bevezetésre. A *Meganola* s. str. génuszt ivarszervi bélyegek alapján definiáltam. Továbbá, a komplex legnagyobb fajszámú génuszait (*Meganola*, *Hampsonola*, *Nanola*, *Ctenane*) fajcsoportokra bontottam megkülönböztető ivarszervi bélyegek alapján. A vizsgálatok két korábban leírt faj szinonimizálását is eredményezték. A teljes kutatás során kb. 8000 példányt – beleértve valamennyi fellelhető taxon elsődleges típusát – vizsgáltam meg, és közel 2500 ivarszerv preparátumot készítettem. A munka eredményeként a revideált génuszok annotált fajjegyzékét is összeállítottam, mely a következő taxonszámokat mutatja:

Meganola Dyar, 1898: 81 taxon (ebből 25 saját leírás).

Ctenane Swinhoe, 1905: 4 taxon (ebből 2 saját leírás).

Nanola László, Ronkay & Ronkay, 2010: 14 taxon (ebből 10 saját leírás).

Hampsonola László, Ronkay & Ronkay, 2015: 33 taxon (ebből 25 saját leírás).

Wittonola László, Ronkay & Ronkay, 2015: 1 taxon (saját leírás).

Maculonola László, Ronkay & Ronkay, 2015: 2 taxon (ebből 1 saját leírás).

Fragilonola László, Ronkay & Ronkay, 2015: 3 taxon (valamennyi saját leírás).

Proneca Swinhoe, 1890: 2 taxon (ebből 1 saját leírás).

Selca Walker, 1865: 1 taxon.

A taxonómiai kutatás 12 éve során összesen 27 új génuszt, 224 új fajt és 3 új alfajt írtam le, továbbá 64 új kombinációt vezettem be társszerzőimmel közös publikációinkban.

A nagy mennyiségű megvizsgált anyag és a teljeskörűen összegyűjtött irodalom alapján a *Meganola* generikus komplex állatföldrajzi áttekintését is elkészítettem. A jelenleg elérhető megvizsgált gyűjteményi anyagokból és az irodalmi adatokból az látszik, hogy mind a *Meganola* s. l., mind a *Meganola* s. str. csoportok a legnagyobb fajdiverzitást Indokína erdővidékein mutatják, habár szintén igen fajgazdagok a Himalájában, Taiwan szigetén és az Indonéz szigetvilágban. Ugyanakkor a fajdiverzitás jóval kisebb a Palaearktikumban, különösen a Nyugat-Palaearktikumban és Közép-Ázsiában, mely régiókban kizárólag a *Meganola* s. str. génusz található összesen 9 fajjal. Mind a generikus komplex, mind a *Meganola* s. str. jóval elterjedtebb az Orientális régióban, mint a Palaearktikumban. A *Meganola* s. l. generikus komplex 108 faja orientális, és csupán 32 palaearktikus elterjedésű, míg a *Meganola* s. str. esetében 50 faj orientális és 29 faj palaearktikus. A *Meganola* s. l. komplex génusz diverzitása az Orientális régió trópusi területein jóval nagyobb, ahol 9 génusz képviseli a csoportot, míg északi irányban a Csendes-óceáni partvidéken csak 3 génusz jutott el a Palaearktikumba.

A morfortaxonómiai vizsgálatok összefoglalásaként a Roeseliidina szubtribusz generikus csoportosítását is elkészítettem, továbbá a szubtribusz valamennyi génuszát egy egységes taxonlista formájában csoportosítottam.

A teljes Nolinae alcsalád filogenetikájának pontos megismeréséhez a morfológiai vizsgálatokat a jövőben ki kell terjeszteni a teljes világ faunára, továbbá a molekuláris biológia eszközeit is be kell vonni a vizsgálatokba.

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- LÁSZLÓ, GY. M., RONKAY, G. & RONKAY, L. (2015): Contribution to the knowledge on the Palaearctic and Oriental taxa of the *Meganola* s.l. (Lepidoptera, Noctuoidea, Nolidae, Nolinae) generic complex with descriptions of 4 new genera and 11 new species. *Zootaxa* **4052**(2): 251-296.
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APPENDICES

The most important publications regarding the present dissertation. The full text of all publication listed below are available on the attached CD.

Appendix 1:

LÁSZLÓ, GY. M., RONKAY, G. & WITT, T. (2005): New and poorly known species of Nolidae (Lepidoptera, Nolidae). Investigations on Asian Nolidae II. *Entomofauna* **26**(11): 205-224.

Appendix 2:

LÁSZLÓ, GY. M., RONKAY, G. & WITT, T. (2006). Description of a New Genus and Five New Species of Nolinae from Thailand. Investigations on Asian Nolidae III. (Lepidoptera, Nolidae). *Entomofauna* **27**(21): 265-276.

Appendix 3:

LÁSZLÓ, GY. M., RONKAY, G. & WITT, T. (2007): New taxa in the *Meganola scripta* (Moore, 1888) species group and in the genus *Dialithoptera* Hampson, 1900. Investigations on Asian Nolidae IV. (Lepidoptera, Nolidae). *Entomofauna* **28**(2): 17-32.

Appendix 4:

LÁSZLÓ, GY. M., RONKAY, G. & WITT, T. (2007): New species of the *Meganola nitida* (Hampson, 1894) species-group. Investigations on Asian Nolidae V. (Lepidoptera, Nolidae). *Entomofauna* **28**(14): 157-172.

Appendix 5:

LÁSZLÓ, GY. M., RONKAY, G. & WITT, T., (2010): Contribution to the Nolinae (Lepidoptera, Noctuidae) fauna of North Thailand. *Esperiana* **15**: 7-125.

Appendix 6:

LÁSZLÓ, GY. M., RONKAY, G. & RONKAY, L. (2013): Description of a new genus and two new species of the subfamily Nolinae (Lepidoptera, Noctuoidea, Nolidae). *Fibigeriana Supplement. Book series of Taxonomy and Faunistics*. **Vol. 1**: 171-176.

Appendix 7:

LÁSZLÓ, GY. M., RONKAY, G. & RONKAY, L. (2013): Description of five new genera and five new species of Nolinae from SE Asia (Lepidoptera, Noctuoidea, Nolidae). *Fibigeriana Supplement. Book series of Taxonomy and Faunistics*. **Vol. 1**: 181-190.

Appendix 8:

LÁSZLÓ, GY. M., RONKAY, G. & RONKAY, L. (2014): New *Meganola* Dyar, 1898 taxa from South East Asia (Lepidoptera, Noctuoidea, Nolidae, Nolini). *Fibigeriana Supplement. Book series of Taxonomy and Faunistics*. **Vol. 2**: 31-48.

Appendix 9:

HU, Y.-Q., HAN, H.-L., LÁSZLÓ, GY. M., RONKAY, G. & WANG, M. (2013): Five new species of the genus *Meganola* Dyar, 1898 (Lepidoptera: Nolidae: Nolinae) from China. *Zootaxa* **3608**(7): 595-600.

Appendix 10:

HU, Y.-Q., HAN, H.-L., LÁSZLÓ, GY. M., RONKAY, G. & WANG, M. (2014): Five new species and five new records of the genus *Meganola* (Lepidoptera: Nolidae: Nolinae) from China. *Florida Entomologist* **97**(3): 1063-1069.

Appendix 11:

LÁSZLÓ, GY. M., RONKAY, G. & RONKAY, L. (2015): On the taxonomy of the genera *Proneca* Swinhoe, 1890, *Ctenane* Swinhoe, 1905 and *Selca* Walker, 1866 (Lepidoptera, Nolidae, Nolinae), with the description of two new species from Sumatra. *Zootaxa* **4048**(2): 232-250.

Appendix 12:

LÁSZLÓ, GY. M., RONKAY, G. & RONKAY, L. (2015): Contribution to the knowledge on the Palearctic and Oriental taxa of the *Meganola* s.l. (Lepidoptera, Noctuoidea, Nolidae, Nolinae) generic complex with descriptions of 4 new genera and 11 new species. *Zootaxa* **4052**(2): 251-296.

APPENDIX 13

Distribution chart

Table 1. Distribution chart of the *Meganola* s. l. generic complex in Eurasia

Taxon	W-Palaearctic	Central Asia	E-Palaearctic	Himalaya	India	Sri Lanka	Indochina	Taiwan	Sumatra	Borneo	Java	Sulawesi	Philippines
Genus: <i>Ctenane</i>													
<i>dealbata</i>													X
<i>labuana</i>									X	X			
<i>michaelli</i>									X	X			
<i>trianguloquelinea</i>									X	X	X		
<i>yanquinghui</i>							X	X					
Genus: <i>Fraglionola</i>													
<i>igorostjuki</i>													
<i>fragilis</i>									X	X			
<i>parentela</i>									X	X			
Genus: <i>Hampsonola</i>													X
<i>indistincta</i>					X								
<i>harutai</i>					X								
<i>diehli</i>									X				
<i>basinufa</i>							X						
<i>subbasinufa</i>							X						
<i>longshengensis</i>							X						
<i>angustifasciata</i>							X						
<i>stueningi</i>							X						
<i>wilbarka</i>							X						
<i>hiranoi</i>			X										
<i>honeyi</i>							X						
<i>tarkobarka</i>							X		X				
<i>micra</i>							X		X				
<i>paramediana</i>							X						
<i>nankunensis</i>							X						
<i>zillii</i>							X		X				
<i>semmiminta</i>							X		X				
<i>semirufa</i>						X	X		X				
<i>latscripta</i>							X		X				
<i>galsworthyi</i>							X		X				
<i>hollowayi</i>							X		X				
<i>mediana</i>							X		X				

Taxon	W-Palaeartic	Central Asia	E-Palaeartic	Himalaya	India	Sri Lanka	Indochina	Taiwan	Sumatra	Borneo	Java	Sulawesi	Philippines
<i>gigantoides</i>			X				X						
<i>danglashaensis</i>							X						
<i>basinigra</i>				X			X						
<i>mimetica</i>							X				X	X	
<i>sithoffi</i>							X						
<i>benescripta</i>							X						
<i>csorbogabori</i>							X						
<i>sapatogka</i>							X						
<i>geoffmartini</i>							X						
<i>rufa</i>													
<i>kerala</i>					X								
Genus: Maculonola													
<i>apiensis</i>										X			
<i>dolakmerangirensis</i>									X				
Genus: Meganola													
<i>gigantula</i>	X												
<i>tenebrosa</i>				X			X		X		X		X
<i>guentereberti</i>				X									
<i>margalla</i>				X									
<i>basisignata</i>			X										
<i>suffusata</i>				X			X			X			X
<i>etlaeagni</i>													
<i>arenbergeri</i>				X									
<i>impura impura</i>		X											
<i>impura centralis</i>			X										
<i>togatulalis</i>	X												
<i>pulverata</i>								X					
<i>ascripta</i>							X			X			
<i>subascripta</i>							X	X					
<i>argentescens</i>				X			X						
<i>jinghongensis</i>							X						
<i>tarka</i>					X		X				X	X	
<i>tomkovichii</i>					X	X	X						X

Taxon	W-Palaeartic	Central Asia	E-Palaeartic	Himalaya	India	Sri Lanka	Indochina	Taiwan	Sumatra	Borneo	Java	Sulawesi	Philippines
<i>gigas</i>			X										
<i>protogigas</i>			X										
<i>bicoloria</i>							X						
<i>subgigas</i>			X										
<i>major major</i>					X		X			X			
<i>major caesiopennis</i>			X										
<i>major fulvusana</i>			X										
<i>major phaea</i>							X						
<i>major takasago</i>								X					
<i>brunellus</i>			X			X	X	X	X				
<i>flexilineata</i>										X		X	
<i>triangulalis</i>			X				X	X		X			X
<i>albula albula</i>	X			X									
<i>albula formosana</i>								X					
<i>albula mesotherma</i>							X						
<i>albula pacifica</i>			X										
<i>domingua</i>							X						
<i>hoenei</i>							X						
<i>ohsunghwani</i>			X				X						
<i>costalis</i>			X				X						
<i>postmediana</i>							X						
<i>nitida</i>				X			X						
<i>subnitida</i>							X						
<i>mediofusca</i>							X	X					
<i>fuscimarginalis</i>							X	X					
<i>punctilineata</i>				X			X		X				
<i>calligrapha</i>				X			X	X					
<i>zolutuhini</i>							X	X					
<i>ruficostata</i>				X			X						
<i>cuneifera</i>							X			X			
<i>brechlini</i>							X						
<i>shimekii</i>			X										
<i>albiscrupta</i>							X						

Taxon	W-Palaearctic	Central Asia	E-Palaearctic	Himalaya	India	Sri Lanka	Indochina	Taiwan	Sumatra	Borneo	Java	Sulawesi	Philippines
<i>mikabo</i>			X										
<i>cenwanga</i>							X						
<i>mediofascia</i>			X										
<i>manoboides</i>										X			
<i>strigivena</i>				X									
<i>tetrodon</i>							X						
<i>zegzugmintia</i>				X									
<i>zirkalmashka</i>				X									
<i>strigula</i>	X												
<i>kolbi</i>	X												
<i>strigulosa strigulosa</i>			X										
<i>strigulosa satoi</i>			X										
<i>tsinlinga</i>							X						
<i>selma</i>							X						
<i>pseudobosalactifera</i>									X				
<i>susharyonensis</i>								X					
<i>parki</i>			X										
<i>flexuosa</i>				X			X	X	X				
<i>nanlinga</i>							X	X					
<i>bryophilalis bryophil.</i>			X										
<i>bryophil. hondoensis</i>			X										
<i>scripta scripta</i>				X			X						
<i>scripta csoewarii</i>							X						
<i>implicata</i>							X						
<i>fumosa</i>			X										
<i>nitidoides</i>										X			
<i>simulata</i>									X				
<i>scriptoides</i>							X			X			
Genus: <i>Nanola</i>													
<i>hluchyi</i>							X						
<i>rothschildi</i>									X				
<i>laevis</i>							X						X
<i>franzdanieli</i>							X						

Taxon	W-Palaeartic	Central Asia	E-Palaeartic	Himalaya	India	Sri Lanka	Indochina	Taiwan	Sumatra	Borneo	Java	Sulawesi	Philippines
<i>liaoingensis</i>			X										
<i>lesarbena</i>							X					X	
<i>patkosigna</i>													
<i>wongi</i>							X						
<i>basolactifera</i>							X		X	X			
<i>subbasolactifera</i>									X				X
<i>promelaena</i>								X					X
<i>mirabilis</i>											X		
<i>submelaeana</i>				X			X						X
<i>klondykei</i>													
Genus: <i>Pronecta</i>													
<i>folia</i>						X							
<i>brunneostrata</i>						X	X		X		X		
Genus: <i>Selca</i>													
<i>latifascialis</i>									X	X			
Genus: <i>Wittonola</i>													
<i>latifasciata</i>							X		X				
Species and subspecies number	6	3	23	21	3	4	75	16	24	15	7	4	11

APPENDIX 14

Colour figures

Plate 1



Fig. 1. *Meganola conspicua* Dyar, 1898, male, USA-Arizona



Fig. 2. *Meganola gigantula* (Staudinger, 1878), female, Turkey



Fig. 3. *Meganola tenebrosa* (Hampson, 1896), female, HT, Bhutan



Fig. 4. *Meganola elaeagni* (Stshetkin, 1980), female, PT, Tajikistan



Fig. 5. *Meganola impura impura* (Mann, 1862), male, Greece



Fig. 6. *Meganola togatulis* (Hübner, 1796), female, Germany



Fig. 7. *Meganola pulverata* (Wileman & West, 1929), male, HT, Taiwan



Fig. 8. *Meganola ascripta* (Hampson, 1894), male, HT, Khasis

Plate 2



Fig. 9. *Meganola gigas* (Butler, 1884), female, HT, Japan



Fig. 10. *Meganola major major* (Hampson, 1891), female, Thailand



Fig. 11. *Meganola brunellus* (Hampson, 1893), male, Taiwan



Fig. 12. *Meganola flexilineata* (Wileman, 1916), male, HT, Luzon



Fig. 13. *Meganola albula albula* (Den. & Schiff., 1775), female, Germany



Fig. 14. *Meganola nitida* (Hampson, 1894), female, HT, Manipur



Fig. 15. *Meganola fuscimarginalis* (Wileman, 1914), male, HT, Taiwan



Fig. 16. *Meganola punctilineata* (Wileman & South, 1878), female, HT, Bhutan

Plate 3



Fig. 17. *Meganola calligrapha* Lász., Rky & Witt, 2005, male, HT, Thailand

Fig. 18. *Meganola ruficostata* (Hampson, 1896), female, HT, Bhutan



Fig. 19. *Meganola cemwanga* Hu, Lász., Rky & Wang, 2013, male, PT, Vietnam

Fig. 20. *Meganola mediofascia* (Inoue, 1958), male, HT, Japan



Fig. 21. *Meganola manoboides* Holloway, 2003, male, HT, Borneo

Fig. 22. *Meganola strigivena* (Hampson, 1894), male, HT, Sikkim



Fig. 23. *Meganola strigula* (Den. & Schiff, 1775), male, Hungary

Fig. 24. *Meganola strigulosa strigulosa* (Staudinger, 1877), male, ST, RFE

Plate 4



Fig. 25. *Meganola seima* Lász., Rky & Rky, 2014, male, HT, Cambodia



Fig. 26. *Meganola flexuosa* (Poujade, 1886), male, Thailand



Fig. 27. *Meganola scripta scripta* (Moore, 1888), male, Pakistan



Fig. 28. *Meganola fumosa* (Butler, 1879), male, HT, Japan



Fig. 29. *Meganola nitidoides* Holloway, 2003, male, PT, Borneo



Fig. 30. *Meganola scriptoides* Holloway, 2003, male, HT, Borneo



Fig. 31. *Hampsonola indistincta* (Hampson, 1894), male, HT, Naga Hills



Fig. 32. *Hampsonola semirufa* (Hampson, 1894), female, HT, Sikkim

Plate 5



Fig. 33. *Hampsonola donglashanensis* (Hu, Han, László, Rky & Wang, 2014), male, HT, China-Sichuan



Fig. 34. *Hampsonola mimetica* (László, Rky & Rky, 2014), male, HT, Nepal



Fig. 35. *Hampsonola sijthoffi* (van Eecke, 1920), male, Sumatra



Fig. 36. *Hampsonola rufa* (Hampson, 1900), female, HT, Sri Lanka



Fig. 37. *Wittonola latifasciata* László, Rky & Rky, 2015, female, HT, Cambodia



Fig. 38. *Ctenane labuana* (Swinhoe, 1904), male, HT, Borneo



Fig. 39. *Ctenane trianguloquelinea* (van Eecke, 1920), female, Sumatra



Fig. 40. *Nanola hluchyi* László, Rky, & Witt, 2010, male, HT, Thailand

Plate 6



Fig. 41. *Nanola basalactifera* (Holloway, 2003), male, HT, Borneo



Fig. 42. *Nanola promelaena* (Hampson, 1914), male, HT, Taiwan



Fig. 43. *Nanola klondykei* (László, Rky & Rky, 2014), male, HT, Luzon



Fig. 44. *Fragilonola igorkostjuki* (László, Rky & Witt, 2010), male, HT, Thailand



Fig. 45. *Maculonola apiensis* (Holloway, 2003), male, HT, Borneo



Fig. 46. *Proneca fola* Swinhoe, 1890, female, HT, Burma



Fig. 47. *Selca latifascialis* Walker, 1866, male, Sumatra